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CONSIDERATION OF MEANING IN THE ASSESSMENT OF CHRONIC PAIN

BY

SALLY NIKOLAJ

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A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND

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Dedicated with love and admiration
to my father, Frank William Hewes.

"Suffrons, mais suffrons sur les cimes."

Victor Hugo
Les Malheureux

ABSTRACT

In recent years, the literature has reflected a changing conceptualization regarding the nature of chronic pain and recognition that assessment of this complex condition requires a multidimensional approach. It is generally recommended that this approach involve psychometric evaluation of sensory, cognitive, affective and behavioural aspects of pain toward a comprehensive understanding of the client. However, consideration of the meaning dimension is not typically included in spite of considerable evidence identified in clinical, philosophical, spiritual and anecdotal accounts, that chronic pain is meaningful and has significance for the sufferer. The present investigation utilized a combination of quantitative and qualitative methodologies to determine what influence an awareness of meaning would have upon psychologists' assessment of, and recommendations for, a client with chronic pain. The psychologists who served as participants were assigned to one of three different conditions. All were asked to review assessment information from a single client with chronic pain. Condition 1 participants reviewed traditional assessment information gathered via psychometric evaluation. Participants in Condition 2 listened to an audiotaped interview during which the client answered questions regarding the meaning of her pain. Finally, participants in Condition 3 reviewed both psychometric and meaning information. Both quantitative and descriptive data analysis indicated that an awareness of meaning did influence the participants' understanding of the client and the

recommendations made for intervention. Psychologists who had access to meaning information (Condition 2 and 3) came to very similar conclusions regarding the client's presenting problems and the type of treatment they would advocate. Whereas, the impressions and recommendations of Condition 1 participants were very different lending support to the differential influence of meaning information. The research outcomes also indicated that the meaning information provided took precedence over other assessment information. In addition, even those psychologists who were not privy to the client's perspective regarding the meaning of her pain, as in Condition 1, came to conclusions about the significance of her pain. This finding, in conjunction with other results, suggests that psychologists do value meaning information and, in fact, seek to understand this aspect of a client's pain as part of the assessment process. Overall, the research supports systematic inclusion of meaning evaluation in the assessment of chronic pain, and suggests that this evaluation should be undertaken through interaction with the client.

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CHAPTER I

INTRODUCTION

The term chronic pain is used to describe benign, intractable pain which persists beyond the natural healing period. This is generally accepted as a time exceeding six months after injury or trauma to the body (Crue, 1985). At this point, there is frequently no remaining physical impairment to account for the existence of pain. Unlike acute pain, chronic pain does not carry the message of warning to the sufferer nor does it respond to traditional medical intervention. And yet, individuals who have chronic pain often pursue a relentless search, travelling from one medical specialist to another seeking the ultimate cure for their problem. The end result is anger, frustration, and helplessness as sufferers experience only limited improvement or no improvement at all (Violon, 1982, p. 20).

In reality, chronic pain is much more than just a sensory phenomenon directly proportional to the amount of tissue damage sustained in an injury. It includes a large psychological component and frequently develops into a pain syndrome that touches many areas of the sufferer's life; their work, their finances, their relationships, their recreational and social activities, their behaviour, and, their feelings about themselves. Negative emotional and cognitive responses to chronic pain are common and often contribute to an exacerbation of symptoms (Clarke-Mims, 1989; Feuerstein, 1989, p. 3-5; Whitehead & Kuhn, 1990, p. 8). This exacerbation then leads to dysfunctional

thoughts and feelings as the sufferer becomes caught in a vicious cycle of pain (Burckhardt, 1990, p. 865; Loeser & Egan, 1989).

Chronic pain has been the topic of considerable research and theorizing over the past 20 years, as professionals struggle to understand and treat this debilitating condition. There has been increasing recognition of the complexity and psychological dimensions involved in chronic pain as a result of the pioneering work of Melzack and Wall (1965, 1982), Fordyce (1976) Sternbach (1968), and others. There are now new models and ways of conceptualizing chronic pain that have both advanced and challenged more traditional perspectives. Concomitant developments have taken place in interventions and therapeutic modalities used in the treatment of chronic pain. Intervention is no longer directed exclusively at the alleviation of somatic symptoms of pain, but also towards some of the psychological components associated with this experience.

Paradoxically, the assessment of chronic pain has not kept pace with other advancements in the field (Reid & Bush, 1990, p. 119). This is especially odd given that assessment is generally undertaken to make decisions regarding appropriate intervention. Only in the last ten years has the assessment issue been addressed with specific consideration given to how it can begin to reflect new ways of thinking about chronic pain (Turk & Rudy, 1986, 1987).

Currently, the most widely accepted position on chronic pain assessment is the multidimensional approach (Blazer, 1990, p. 307-318; Camic, 1989, p. 47-

63; Eggebrecht et al., 1990, p. 71-90; Romano, Turner & Moore, 1989, p. 38-51; Turk & Rudy, 1987; Williams, 1988). Turk and Rudy (1987) advocate that, prior to making decisions regarding intervention, the clinician should evaluate all dimensions of the chronic pain experience; sensory, affective, cognitive, and behavioral. While they recommend that this multidimensional assessment be undertaken via one unifying instrument, as yet, no single assessment protocol has fulfilled this challenge. Rather, assessment typically involves the use of a variety of instruments proven effective in the evaluation of various facets of chronic pain.

The Problem

Despite recent advances in the assessment of chronic pain there is one dimension of this experience that is rarely evaluated; that is, consideration of the personal significance of the pain to the sufferer. It is difficult to understand this in light of considerable clinical evidence that people do assign meaning to their pain. Whether it represents punishment for sin, the continuation of compensation or insurance payments, or any number of other things, pain is meaningful.

The evaluation of this aspect of chronic pain does not lend itself to quantitative measurement. The meaning dimension is inherently personal and subjective, and can only be assessed through discussion with the sufferer. Clinicians who spend time talking to their clients as part of the assessment process, may become aware of the personal significance of the pain to that

individual. This information, along with the results of other assessment tools, may then have an impact upon the choice of treatment. For example, if pain has some useful function in a person's life, such as keeping his/her marriage intact, it may be necessary to provide relationship counselling towards the resolution of marital difficulties. If the clinician is not aware of this particular function of the pain, he/she may apply a variety of behavioral-medical strategies, only to discover that none are successful in reducing the influence of the pain, primarily because the client has a good reason for not giving it up (Burckhardt, 1990).

Despite scenarios such as this one, as mentioned, there is little discussion of the personal significance of chronic pain in the pain assessment literature. Therefore it becomes interesting to determine to what degree knowledge of the meaning aspect contributes to decisions made regarding the psychological management of chronic pain.

The Purpose

The purpose of the present research was to determine what influence an awareness of the personal meaning that a sufferer assigns to their pain, has upon the clinician's understanding of pain and choice of therapeutic interventions. The question that guided this research was; what, if any, difference in treatment recommendations occur depending upon the assessment information available to the psychologist making this decision? The

study considered the impact on decision making of the following types of assessment information:

1. Results of standardized psychometric instruments used in the assessment of chronic pain.
2. Information regarding the meaning assigned to chronic pain collected via an interview process.
3. Both psychometric and meaning assessment information.

Overview of the Study

In order to determine the influence of various types of assessment information a comprehensive assessment was undertaken with one client who had chronic pain. This assessment included various psychometric instruments traditionally employed in the evaluation of sensory, behavioural, cognitive, and affective dimensions of chronic pain. In addition, an interview was conducted with the same client in order to assess the personal significance or meaning of the chronic pain to them. Psychologists served as subjects for this investigation. They were randomly assigned to three groups. One third received only the results of psychometric assessment (Condition 1), one third received only the results of the meaning assessment (Condition 2), and one third received both types of assessment information (Condition 3). Subjects were then asked to make recommendations for treatment of the client. Their recommendations were analyzed both statistically and descriptively to determine if any differences existed between the three conditions.

The Researcher's Presuppositions and Working Assumptions

At the point at which the present investigation was undertaken, the researcher had approximately six years of experience as a professional psychologist working with injured workers who had chronic pain. This experience included both evaluation and intervention with these clients, as well as extensive review of the literature pertaining to the assessment and treatment of chronic pain. As a result, the researcher developed a number of concerns and biases related to the assessment process which motivated her to undertake the current study. Specifically, the researcher had come to appreciate the importance of evaluating the meaning that clients with chronic pain assign to their experience of pain, in conjunction with other more traditional types of assessment, toward making recommendations for treatment. She also became aware of the absence of consideration of meaning in the pain assessment literature. This history and perspective resulted in the following presuppositions regarding the assessment of pain and outcomes of the present study.

1. While psychologists may interact with clients as part of the assessment process, this is typically done to collect historical information and not to ascertain the meaning of the pain for that client. Assessment of the meaning dimension is not a standard part of the evaluation of clients with chronic pain undertaken by most psychologists.

2. A review of psychometric assessment information will result in a qualitatively and quantitatively different understanding of the client with chronic pain and different recommendations for treatment than a review of meaning information.

3. Psychologists who review both psychometric and meaning assessment information will have a quantitatively and qualitatively different understanding of the client, and will make different recommendations for treatment than psychologists who review each of the types of assessment information independently.

CHAPTER II

LITERATURE REVIEW

Introduction

In the literature review, the assessment issue, as it relates to chronic pain, will be examined. First the need for the assessment of clients with pain will be addressed, followed by consideration of problems inherent in the assessment process. A review of the changing conceptualization of pain will then be presented in an effort to demonstrate how one's understanding of pain determines the direction of evaluation and the specific assessment tools used. Early sensory models of pain will first be considered. The author will then review a number of modern conceptualizations of pain including; acute versus chronic pain, organic versus functional pain, the gate control theory, the behavioral perspective, the cognitive-behavioral perspective and, the multidimensional perspective. Each of the sections will include a description of the assessment tools and psychometric instruments which developed out of, or are related to, the specific theory of pain introduced.

The remainder of the literature review will be devoted to consideration of the meaning or personal significance of the pain experience to the sufferer. This aspect of pain has been largely overlooked in the pain assessment literature and, therefore has not been incorporated into the assessment process. The author will present a variety of different perspectives on the meaning of pain drawn from psychological, philosophical, spiritual and literary

sources, in an attempt to demonstrate the diversity of meaning that the pain experience may hold for the sufferer.

The Need for Chronic Pain Assessment

The careful assessment of clients with pain is considered essential in that the assessment contributes to an understanding of the (a) mechanism of pain; (b) descriptive characteristics of pain (location, intensity, quality, chronology); (c) level of impairment; (d) degree of disability; (e) significant psychosocial contributors to pain; (f) physiological and behavioral responses to pain; (g) perceptions and meaning of pain; (h) individual strengths, resources and mechanisms being used to cope with pain, and; (i) development of methods of pain control and treatment (Camic, 1989, p. 50; Johnson, 1977; Melzack, 1983, p. 1; Romano, Turner & Moore, 1989, p. 39; Turk & Rudy, 1986; Turk, 1990)

Only following comprehensive assessment can responsible choices be made for treatment. And yet, as already mentioned, understanding of chronic pain and treatment interventions have risen to a higher level of sophistication than the assessment techniques which identify their need (Reid & Bush, 1990, p. 119). In spite of innovations in the treatment of pain, inadequate assessment may result in unnecessary, inappropriate, insufficient, or even harmful intervention (Turk, 1990).

Challenges to Pain Assessment

While the importance of pain assessment is acknowledged, there are a number of issues which make pain assessment difficult. These include: a lack of quantifiable measures that reflect the full experience of pain; difficulty establishing the reliability and validity of pain measures in the absence of an operational definition of pain; and the subjective nature of the pain experience (Cinciripini & Floreen, 1983; McGuire, 1984; Williams, 1988). Stewart (1977) stresses the subjectivity of the pain experience and asserts that "The interpretation of certain stimuli as being painful is overlaid with past history as well as present circumstances. The quality as well as the intensity of the pain experience is personal and can never be fully assessed by an observer" (p. 107). Hebben (1985) adds that "Pain is a highly complex phenomenon that by its very nature precludes objective assessment" (p. 452). The subjectivity of pain is not so much a problem as it is a reality; one that must be acknowledged in the assessment process. Many theorists, researchers, and clinicians appreciate that a person's own subjective report remains the best indicator of pain and is an essential complement to other assessment strategies (Stewart, 1977; Williams, 1988; Wolff, 1978).

The Conceptualization of Pain and Related Assessment Techniques

In addition to the challenges mentioned above, the evaluation of pain is also influenced by the perspective of the person undertaking the assessment.

That is, how pain is assessed is very much a function of how it is understood or conceptualized (Turk & Rudy, 1987). Stewart (1977) states that "Researchers cannot study pain until they understand what pain is; such an understanding is basic to a knowledge of pain analysis and measurement". The way that one defines pain determines the eyes through which pain is viewed and certainly evaluated. A review of the changing conceptualization of pain will help to demonstrate this relationship.

Early Sensory Models

Prior to the 19th century, the most commonly accepted model of pain was that of Aristotle. Aristotle viewed pain as "a passion of the soul", an emotion that represents the opposite of pleasure (Dallenbach, 1939; Johnson, 1977; Reid & Bush, 1990, p. 119; Turk & Rudy, 1986). In the late 1800's, with increasing knowledge of human physiology and sensory processes, the sensory-physiological view of Descartes gained popularity. The Cartesian model asserts that pain is a sensory reaction to noxious stimuli, specifically tissue damage or organ pathology. This view holds that "The amount of pain experienced is directly proportional to the amount of physical damage." (Turk & Rudy, 1986). Within this conceptualization, psychological aspects of pain are all but ignored.

Related Assessment Techniques

Several methods exist for assessing the sensory dimension of pain, many of which derive from laboratory research in which pain is artificially induced.

The generalization of these findings to clinical settings is questionable for an number of reasons. First, laboratory induced pain provides an analogue of acute pain rather than chronic pain. This is understandable given that acute pain is easier to simulate and that it is both morally and ethically unacceptable to create chronic pain. Secondly, Beecher (1959) asserts that it is not reasonable to compare experimental pain with clinical pain given that they hold different meaning for the sufferer. The former is not as threatening since it is usually less intense, more transitory, and can be withdrawn at any time.

Therefore, techniques used in the assessment of sensory dimensions of experimental pain may not be appropriate for the assessment of chronic pain. In spite of these cautions, strategies directed at the quantification of the sensory aspect of pain continue to be applied in assessing clinical pain of both brief (acute) and extended (chronic) duration.

Sensory assessment techniques are most concerned with variables of pain intensity, pain threshold, and pain tolerance, and include some of the following:

Pain Scales

As Chapman et al. (1985) note, pain scales are a surprisingly simple means of measuring pain intensity. Keele (1948) was one of the first to develop a verbal descriptor scale (VDS) which is also referred to as a simple descriptive scale. The individual being assessed is asked to rate the intensity of their pain on a scale which includes three to five numerically ranked choices of word

descriptors (i.e. none, slight, moderate, severe and agonizing) (McGuire, 1984). While this is certainly a straightforward technique which is easy for the pain patient to complete, it does have some shortcomings. Specific pain descriptors may have different meanings to different people. In addition, one cannot assume that intervals between word descriptors are equal and thus, this method yields only a relative measure of pain which is difficult to analyze statistically (Stewart, 1977).

Another frequently used type of pain scale is the visual analog scale (VAS). The VAS generally employs a ten centimetre line, the length of which is thought to represent the continuum of pain experience. The beginning and end of the line are therefore considered to be the extremes; no pain and severe pain. The pain patient is asked to make a mark along the continuum that is reflective of their experience of pain (Huskisson, 1983). Again, this is a very simple technique that is thought to be less artificial and more sensitive than verbal descriptive scales given that the respondent can make a mark at any point along the line instead of being forced to chose one word descriptor (McGuire, 1984). In addition, the VAS yields interval data which can be analyzed perimetrically.

Pain Threshold and Pain Tolerance Methods

Pain threshold is defined as the point at which pain is perceived (Stewart, 1977). A variety of procedures exist for determining threshold, all of which require the experimental subject to identify, on a continuum of increasing

stimulus intensity, the point that separates painful from non-painful sensation. Although pain threshold was once thought to be a relatively stable measure, its popularity in pain assessment has diminished with discovery of how inconsistent these measures can be. Threshold is especially vulnerable to response bias and individual differences, and may vary as a function of instructions given to the experimental subjects. Wolff (1978) attempts to correct for inconsistency caused by different indices of responsiveness by subtracting pain threshold from pain tolerance (the point of pain intensity beyond which pain can no longer be endured). This measure is referred to as the pain sensitivity range. Although pain tolerance is thought to better approximate acute clinical pain, it is influenced by experimental context, the familiarity of the painful stimulus, and experimental variables. It is highly also susceptible to the placebo affect (Chapman et al., 1985).

Sensory Matching Methods

Sensory Matching involves the simultaneous comparison of experimentally induced pain with clinical pain. The experimental pain provides an analog of pathological pain when the two sensations being compared are judged to be the same. The experimental pain is most commonly induced with heat (Hardy et al.,1952) or pressure. Cross modality matching has also been explored. For example, Peck (1967) attempted to match sound intensity to clinical pain.

One of the most common types of applied sensory matching involves the adaptation of the submaximal effort tourniquet technique originally developed by Smith and his colleagues (1966). Briefly, this method requires the pain patient to match their clinical pain with pain produced by the inflation of a pressure cuff applied to the upper arm. When the subject opens and closes their hand at a fixed rate, a deep, slowly increasing pain is produced. This pain is referred to as ischemic and is thought to approximate pathological pain. Sternbach (1983) states that this technique can be particularly useful in assessing the intensity of chronic pain. The advantages of this and other methods of sensory matching include the yielding of quantifiable, interval type measurement of pain and, the comparison of two sensations rather than attempting to match pain with some point on a scale or other symbolic representation. One of the shortcomings of sensory matching is that the patient must be experiencing pain at the time of the comparison. In addition, the induction of experimental pain or other noxious stimuli may exacerbate the severity of clinical pain and thus potentially confound results and enter an ethical problem. Stewart (1977) adds that the tourniquet test is particularly susceptible to bias by psychological and sociocultural factors.

Other Techniques

There are a variety of additional techniques used to evaluate the sensory aspect of pain which are relatively less common than those described above. These include sensory decision theory which is also referred to as signal

detection theory (Clark & Yang, 1983; Clark, 1987), magnitude estimation procedure, pain colour scales and pain circles (Stewart, 1977).

Modern Conceptualizations

The inadequacies of early models of pain and the undimensional sensory perspective became apparent with medical and technological advances. Analgesic regimes, pharmacological treatment, and sophisticated surgical procedures designed to sever pain pathways, did not result in permanent amelioration of pain as would be predicted by the sensory-physiological model. In addition, treated patients experienced varying reactions to the same interventions and many continued to report pain (Turk, 1990). This discovery led to greater consideration of the psychological mechanisms involved in the experience of pain (Turk & Rudy, 1986; Turk, 1990). That is, if pain persists when physiological measures are taken to end it, it may, in part, be the result of psychological factors.

In the 1950's investigators began to distinguish between the sensory and reactive aspects of pain (Johnson, 1977). Beecher (1962) set the stage for an appreciation of the multidimensional character of pain when he argued that it was not enough to simply quantify the intensity and duration of pain. Consideration must also be given to the reactive component or emotional dimension of pain (Chapman et al, 1985). According to Beecher, the sensory component is dependent upon neurophysiological processes and can be measured in terms of the intensity, location, and duration of the pain. The

reactive component, however, refers to the emotional response to pain that differs from one individual to another depending upon personality, social, and cultural factors. It is typically assessed via autonomic, motor, and verbal responses to pain, and inherently reflects the more subjective aspects of the pain experience (Johnson, 1977).

Recognition of the emotional-motivational, and subjective aspects of pain influenced subsequent definitions and conceptualizations of pain. Sternbach (1968) defines pain as an abstract phenomenon which includes a subjective sensation of being hurt, a harmful stimulus that signals tissue damage, and a pattern of responses which are engaged in by the individual to protect against further harm. Similarly, Merskey (1986) defines pain as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage or described in terms of such damage." This definition is endorsed by the International Association for the Study of Pain (IASP) (1986).

Acute versus Chronic Pain

The distinction between acute and chronic pain is one of the modern conceptualizations of pain which affected pain evaluation and changed forever the way that pain is understood. The term acute pain is used to describe the sensation associated with peripheral tissue injury. The perception of acute pain therefore continues until healing takes place unless it is blocked by anaesthetic or altered by analgesic drugs. Acute pain is also referred to as "good" pain given that it provides a message or warning to the individual about the state of

their body. It motivates a removal of the body from the pain producing situation, it imposes sedentary behaviour to allow for healing and finally, it stimulates learning in terms of avoiding similar injurious situations in the future. Acute pain therefore has survival value.

Bonica (1953) was one of the first pain researchers to differentiate chronic pain from acute pain. He describes chronic pain as a "malefic force" - a distinct medical entity that requires special investigation and treatment. Today chronic pain is recognized as being different from acute pain and is defined as a constant or intermittent pain that persists after the natural healing period. This time is generally accepted as six months following injury to the body (Crue, 1985; Melzack, 1982; Sternbach, 1968; U.S. Government Report on Chronic Pain, 1986).

Chronic pain is thought to be a predominantly central nervous system phenomena as compared to acute pain, which derives, at least in part, from peripheral input. It may begin with an acute episode or it may be insidious (Johnson, 1977; Whitehead & Kuhn, 1990). Often, the cause of chronic pain is unknown and the onset is difficult to specify. Therefore, it would seem that chronic pain is more than a symptom of injury. It may become a pain syndrome; a separate and serious condition worthy of urgent treatment. Unfortunately, this type of pain typically does not respond to traditional medical interventions which are effective in the treatment of acute pain (e.g., medication, surgery). In spite of this, the sufferer will often continue to search for the

ultimate medical cure that will take away their pain (Violon, 1982, p. 20). Failure to find such a solution will contribute to a sense of "helplessness, hopelessness and meaninglessness. The pain becomes evil - it is intolerable and serves no useful function" (Melzack & Wall, 1982).

Chronic pain may begin to influence other areas of the individual's life as they withdraw from a normal lifestyle. They may find themselves unable to work or enjoy social and recreational activities. Their eating, sleeping, sexual habits and relationships often change and their own definition of themselves is drastically altered as they take on the sick role. Frustration, anxiety and depression are common emotional correlates (Feuerstein, 1989, p. 3-5; Clark-Mims, 1989; Whitehead & Kuhn, 1990, p. 8).

Many additional distinctions have been made relative to chronic pain. Turk, Meichenbaum, and Genest (1983) distinguish between chronic-periodic pain, chronic-benign pain, and chronic-progressive pain. Sternbach (1986) speaks in terms of chronic pain that is malignant, or reflective of some underlying disease process (e.g., cancer) versus benign chronic pain, for which there is no known organic pathology. Violon (1982, p. 20) uses the term algopathia to describe chronic pain that cannot be attributed to any disease process, and further asserts that the chronic pain may become a disease in and of itself. Feuerstein (1989) considers several components in an operational definition of chronic pain including; pain sensation, pain behaviour, functional status at work, functional status at home, emotional state, and somatic

preoccupation (p. 4). The United States Government Report on Chronic Pain (1986) distinguishes between chronic pain and chronic pain syndrome (CPS). The latter includes recognizable psychological and socioeconomic influences that support and maintain the chronic pain. Many additional distinctions are recommended by Merskey (1986). These refinements in the conceptualization of chronic pain will not be further discussed here. They are, however, reflective of the emphasis that has been placed upon the understanding and assessment of long term, intractable pain over that of short duration, as well as acceptance of psychological factors that contribute to pain.

Organic versus Functional Pain

Another dichotomy that exists in the pain literature distinguishes between organic and functional pain (Turk, 1990). This conceptualization harkens back to Cartesian principles of dualism and represents an anachronism which has and continues to influence pain assessment. Turk & Rudy (1987) explain "pain patients are treated in a dichotomous fashion, either there is a physical basis for the pain and thus the pain is 'real', or if organic findings are absent or the patient's pain complaints are 'disproportionate' to the amount of tissue damage, the patient is categorized as 'psychogenic', that is the pain is 'unreal' and, therefore, emotionally based" (p. 238). This perspective is epitomized by the classification of Psychogenic Pain Disorder in the Diagnostic and Statistical Manual of Mental Disorders (DSM III: American Psychiatric Association, 1980; Turk & Rudy, 1986, 1987). In the recent revision of this text (DSM III-R:

American Psychiatric Association, 1988) the classification of Psychogenic Pain Disorder is replaced by Somatoform Pain Disorder. The latter is a somewhat more progressive conceptualization of pain in that psychological/psychiatric factors are no longer necessary, in an etiological sense, to make a diagnosis.

According to Steven Johnson (1983), the concept of psychogenic pain is dysfunctional for the following reasons: (a) it may encourage patients so diagnosed to legitimize their pain through unnecessary or premature surgical intervention; (b) it provides little useful information in terms of treatment; and (c) the diagnosis is frequently based upon no evidence of organ pathology instead of upon positive psychological testing. That is, if the pain is not organic, it must, therefore, be functional or psychogenic (Turk, 1990). Turk and Rudy (1986) also criticize the inherent assumption of the psychogenic classification that the true cause of all pain syndromes is known. They remind the reader that advances in diagnostic radiology have exposed physical explanations for some pain conditions which were previously thought to have a psychological origin. Similar discoveries can be anticipated as the technology grows more sophisticated.

The dichotomy of real versus imaginary pain is neither accurate nor useful (Camic, 1989, p. 47; Romano, Turner & Moore, 1989, p. 47) "If we consider the various components of pain, there is probably no 'pure' organic pain nor 'pure' psychogenic pain. Pain might be better thought of as a continuum in which physiological and psychological factors play greater or

lesser roles" (Johnson, 1977, p. 142). Thomas Szasz (1974) adds that from the perspective of the suffering person, there is no such thing as psychogenic pain and that people will always ascribe their pain to some dysfunction of their body. He states that psychogenic and organic pain do not represent different types of pain but rather judgements that an observer might render. It is curious that the organic/functional conceptualization of pain has maintained, especially in the medical community, despite recognition of its inadequacy by leading pain theorists.

Related Assessment Techniques

The Minnesota Multiphasic Personality Inventory (MMPI)

The MMPI remains the most frequently used psychometric instrument in the assessment of chronic pain (Johnson, 1983; Snyder, 1990; Romano, Turner & Moore, 1989, p.47; Turk & Rudy, 1987). Specifically, profiles yielded on the MMPI are considered capable of identifying individuals who are experiencing psychogenic or functional pain. The MMPI contains ten clinical scales: (a) hypochondriasis; (b) depression; (c) hysteria; (d) psychopathic deviance; (e) masculinity-femininity; (f) paranoia; (g) psychasthenia; (h) schizophrenia; (i) hypomania; (j) social introversion; and four validity scales. The individual completes 400 true/false questions. The resulting profile is then compared to norms derived from standardization of the test with psychiatric patients.

Certainly the most commonly cited profile identified in the assessment of chronic pain is the Conversion V (Snyder, 1990, p. 249). This profile refers to

an elevation on the first three clinical scales of the MMPI, hypochondriasis, depression, and hysteria, in which depression is relatively less elevated than the other two scales, creating a V shaped profile. Individuals with this personality profile are said to be excessively focused on somatic complaints, and experiencing physical symptoms in the absence of organic conditions that would account for them.

Attempts to identify the chronic pain personality profile have met with considerable criticism. Leavitt's (1985) review of the research leads to his conclusion that the Conversion V is not a useful clinical marker given that functional and organic patients could not be distinguished based upon their profile. It is also recognized that much overlap exists between the MMPI scales the physical and emotional symptoms of chronic pain sufferers (Naliboff, 1982; Turk & Rudy, 1987). That is, the Conversion V personality may not be the cause of chronic pain but rather may represent the current state of an individual who is manifesting negative physical and emotional effects caused by long term intractable illness. In addition, the MMPI was originally developed for a psychiatric population and the norms upon which it was standardized are now outdated. Despite these shortcomings, the MMPI is still widely used and debated in the assessment of chronic pain. Some more progressive interpretations of the MMPI have been suggested (Costello, Schoenfeld, Ramamurthy & Hobbs-Hardee, 1989), and the new version of this instrument

(MMPI-2) is apparently more sensitive to chronic pain (J. Keegan, Personal Communication, November, 1988).

The Symptom Checklist-Revised (SCL-90-R)

The SCL-90-R (Derogatis, 1977) is a 90 item self-report inventory that was originally designed to reflect the psychological symptom patterns of psychiatric and medical patients. It has been applied to the measurement of psychological distress among chronic pain patients (Jamison et al., 1988; Shutty et al., 1986). Each of the 90 symptoms listed on this instrument are rated by the client on a 5-point distress scale (0 - not at all to 4 - extremely). The SCL-90-R includes the following subscales: somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoia and psychoticism. Three global indices of distress are also yielded: Global Severity Index (GSI), Positive Symptom Distress Index (PSDI) and Positive Symptom Total (PST).

The SCL-90-R has been criticized because of its psychiatric of psychopathological orientation, and its factor structure has been questioned (Cyr, et al., 1985). Unlike the MMPI, it lacks built-in validity scales and therefore the potential exists for patients to misrepresent themselves (Keefe, et al.,1982). However, it has the advantage over the MMPI of being brief as well as easy to administer and score. According to Jamison et al. (1988), the SCL-90-R also has face validity for clients.

The Gate Control Theory

A new direction in the understanding of pain came with the Gate Control Model proposed by Melzack and Wall in 1965. This theory represents and integration of previous conceptualizations of pain and was the first to stress the multiple dimensions that contribute to the pain experience. In 1982, Melzack and Wall modified their theory in order to incorporate new scientific information regarding pain mechanisms.

Briefly, the Gate Control Theory states that pain signals from the body may be modulated before they reach the brain were the pain is perceived and a response is initiated. This modulating body is referred to as "the gate" and, according to Melzack and Wall, it is located in the dorsal horn of the spinal cord known as the substantia gelatinosa (SG). At a conceptual level, the SG gate can either be fully opened, partially opened, or closed, thus determining the amount of pain information that can pass through the gate and reach the brain where it will be interpreted as pain. The neural mechanism by which this occurs is certainly complex. In Melzack's words "The degree to which the gate increases or decreases sensory transmission is determined by the relative activity in the large-diameter (A-Beta) and small-diameter (A-Delta and C) fibres and by descending influences from the brain" (p. 222). Excitation of the small unmyelinated fibres facilitates the transmission of pain signals to the brain (opens the gate), whereas, excitation of the large myelinated afferents inhibits the transmission of pain signals (closes the gate).

Afferent transmission and pain perception are also influenced by descending efferent transmission from the brain. Such higher level brain processes as attention, anxiety, anticipation and past experience may, in part, determine how pain is experienced. Therefore, it is possible for emotions and memories of previous experience to have an influence upon sensory input. The central nervous system is also capable of modulating transmission in ascending nociceptive systems through the actions of the endogenous opiod peptides (Anderson, 1983; Melzack & Wall, 1982, p. 171). The so called endorphins resemble morphine in both their pharmacological structure and analgesic properties. The production and release of endogenous opiates may, in fact, be initiated by pain itself. Specifically, they are believed to have an inhibitory effect upon the SG (closing the gate).

Melzack and Wall clearly believe that both the peripheral and central nervous system are involved in determining an individual's perception of pain. They propose that pain is more than just a sensation. It is a complex process that is the result of an interaction of three different perceptual systems: (a) sensory-discriminative; (b) cognitive-evaluative; and (c) motivational-affective. The neospinothalmic projections and the sensory cortex are involved in determining the location, intensity, and temporal patterning of the pain (sensory-discriminative). Activation of the reticular and limbic systems trigger the emotional response to pain and the motivational drive to react (motivational-affective). Finally, higher level, neocortical cognitive processes

such as memory of past experience and coping strategies modulate both sensory and affective systems (cognitive-evaluative).

Melzack and Wall's delineation of a perceptual component to pain that exists above and beyond the sensory aspect led to the subsequent distinction made between 'pain' and 'nociception'. According to the International Association for the Study of Pain (IASP Committee on Taxonomy, 1986) the term 'pain' refers to the subjective perception of pain, whereas 'nociception' is used to describe the sensory phenomenon of pain (Turk & Rudy, 1986, 1987). This distinction remains important and is widely cited in current pain literature.

Related Assessment Techniques

The McGill Pain Questionnaire (MPQ)

The MPQ (Melzack, 1975) represents an attempt to operationalize the tripartite structure of pain proposed by Melzack and Wall. The objective of this instrument is the quantification of sensory-discriminative, motivational-affective, and cognitive-evaluative dimensions of pain. This is accomplished by having pain patients choose specific verbal descriptors that apply to their experience of pain.

In developing this instrument, Melzack and Torgerson (1971) started with 44 pain descriptors originally identified by Dallenbach (1939). They added additional words identified in clinical practice and the literature, resulting in a total of 102 descriptors. These words were then organized into the three major dimensions; sensory, affective, and evaluative, and then into subcategories

within those dimensions. The pain descriptors within each subcategory were ordered according to intensity. Physicians, university students, and pain patients were involved in making these judgements. The resulting questionnaire consists of twenty groups of ordered word descriptors that belong to one of four larger categories; sensory, affective, evaluative, or miscellaneous. The instrument also includes a line drawing of the body, on which the spatial distribution of pain can be indicated, as well as a present pain intensity (PPI) scale (1 no pain - 5 excruciating) and finally, words that describe the temporal quality of pain.

The MPQ can be completed by the pain patient alone or, the word descriptors can be read by a clinician. Administration takes approximately five minutes. Generally, three types of measures are obtained: (a) the pain rating index (PRI) which is comprised of a total score across all pain dimensions, as well as a score for each separate dimension; (b) total number of words chosen to describe pain; and (c) the present pain intensity level identified by the individual at the time of testing.

Numerous studies and analyses have shown the MPQ to be a reliable and valid instrument that has both experimental and clinical validity (Reading, 1983). Turk, Rudy and Salovey (1985) however have found that the three pain dimensions measured lack discriminative validity and they therefore suggest that the MPQ is primarily measuring pain intensity. Apparently many of the pain descriptors are not readily understood by pain patients (Johnson, 1983). In

addition, more word groups fall into the sensory dimension than the affective or evaluative dimensions which may also bias the outcome towards sensory aspects of pain (Chapman et al., 1985). Regardless of these limitations, the MPQ remains a simple and popular instrument for assessing the subjective quality of an individual's pain experience.

Other Assessment Techniques

Delineation of an emotional-motivational aspect to pain led to the use of related instruments in the assessment process. The relationship between pain and emotions is certainly apparent in the frequency of depression, anger, anxiety, and a sense of being out of control among long term pain sufferers. Therefore, assessment tools such as the Beck Depression Inventory (BDI) (Beck, 1972) the State-Trait Anxiety Inventory (STAI)(Spielberger, Gorsuch & Lushene, 1970) and the Multidimensional Health Locus of Control Scale (MHLC) (Wallston, Wallston & DeVellis, 1978) are frequently used in chronic pain assessment.

The Behavioral Perspective

Another conceptualization of pain that dramatically influenced pain assessment is the behavioral perspective. According to this model, pain is a subjective phenomenon that cannot be observed or measured directly. Only behaviours or verbalizations made in response to pain are objectively apparent and, therefore, they should be the target of assessment (Turk & Rudy, 1986). "Strictly speaking, clinical pain is a private matter. It exists only because

someone says he or she has a pain problem. The nature of pain, its intensity, impact, and even its very existence are discernable only by something the suffering person says or does: pain behaviour." (Fordyce, 1983).

Fordyce (1976) classifies four types of pain behaviour which include: (a) verbal complaints; (b) non-language sounds; (c) body posturing and gestures; and (d) signs of disability or functional limitations. In addition, Fordyce (1976) asserts that pain behaviour is maintained through operantly conditioned contingencies. That is, because pain behaviour is observable to others, it may elicit reinforcing responses that will maintain the behaviour (e.g., attention, compensation payments, decreased work responsibilities) (Camic, 1989, p. 50). Therefore, the pain behaviour may be conditioned to continue in the absence of sensory stimulation. According to Fordyce, this explains why chronic pain often exists without any physiological evidence to support it.

Related Assessment Techniques

In terms of assessing pain behaviour, Fordyce (1983) stresses the importance of distinguishing between "say" and "do" behaviour. He asserts that the majority of pain measurement techniques rely upon the sufferer's self-report of aspects of their pain or its influence upon their life, as in visual analog scales or the MPQ. However, self-report may be subject to a number of distorting or biasing influences including depression, chronicity, receipt of disability benefits, medication (Kremer et al., 1983), experimenter demand, interviewer bias, situational demands and self-monitoring (Craig & Prkachin, 1983), and therefore

may not provide an accurate measurement. "Do" behaviour, on the other hand, refers to actual observable behaviour. Assessment of "do" behaviour generally requires a clinician to observe and record the activity of the individual in pain. A variety of techniques have been developed and suggested for direct observation and scoring of chronic pain behaviour (Cinciripini & Floreen, 1983; Craig & Prkachin, 1983, p. 178; Keefe & Block, 1982; Richards et al., 1982). However, gains that are made in objectivity may be balanced by logistical considerations. Direct observations tend to be laborious, expensive, and time consuming.

Although Fordyce suggests that direct observation is preferable, he offers a compromise for behaviour assessment in which individuals with pain are requested to keep activity diaries that then can be compared and contrasted with verbal reports of the pain's influence. For example, an individual may say that they are not able to sit for more than ten minutes, and yet record in their diary that they attended a three hour hockey game. Pain diaries may also be used to identify dysfunctional contingencies that are maintaining pain behaviour. This type of assessment therefore focuses on identifying temporal relationships between reported pain and activity, the avoidance of certain activities, and, the reaction of other people to displayed pain behaviour (Fordyce et al, 1984).

In addition to visible or audible indicators of pain, other behaviours that can be assessed with respect to chronic pain include frequency of health care utilization, consumption of analgesic medication, separation from normal daily

activities, and functional impairment. Such instruments as the Activity Pattern Indicator (API) consider these aspects of pain both in terms of what the pain patient says and what they do.

The most commonly sighted advantage of the behavioral approach is the relative increase in objectivity over purely self-report assessment techniques (Chapman et al., 1985). However, the behavioral approach has also been widely criticized (Chapman et al., 1985; Melzack & Wall, 1982; Turk & Flor, 1987; Turk & Rudy, 1987). Of note, is the fact that behavioral measures do not directly quantify pain but rather a reaction to pain. In addition, the behavioral perspective represents a return to a unidimensional conceptualization of pain. Consideration is not given to sensory, cognitive, or affective aspects of the pain experience.

The Cognitive-Behavioral Perspective

In contrast, to the behavioral perspective; Turk and Rudy's (1986) cognitive-behavioral approach works within the tripartite model espoused by Melzack and Wall. They suggest, that even though the Gate Control Theory and the behavioral model differ in their conceptualization of pain, they may actually be complementary, especially when cognitive aspects are seen to mediate behaviour. "According to the cognitive-behavioral model, it is the patient's perspective that interacts reciprocally with emotional factors, sensory phenomenon, and behavioral responses. Moreover, the patient's behaviour will elicit responses from significant others that can reinforce both adaptive and

maladaptive modes of thinking, feeling, and behaving" (Turk & Rudy, 1986, p. 762). This perspective considers the attitude and beliefs of the individual to be important aspects of the complex multidimensional, and perceptual phenomenon that is pain.

The Multidimensional Perspective

Many authors criticize linear or undimensional conceptualizations of pain and advocate the assessment of chronic pain within a broader scope, including examination of cognitive, behavioral, emotional, psychosocial, and sensory factors (Blazer, 1990; Chapman, 1977; Melzack, 1973; Turk & Rudy, 1987). Turk and Rudy (1987) distinguish between a multidimensional and multiaxial approach to the assessment of pain. The multidimensional approach considers medical, psychosocial, and behavioral information separately, perhaps via different tools, and therefore is uniaxial. According to Turk and Rudy, true multiaxial assessment would integrate information from each component of the pain experience. They recommend that this integration be comprehensive in nature and derived empirically through data analysis allowing for the simultaneous consideration of multiaxial findings. The outcome will be the development of "a triarchic Multiaxial Assessment of Pain (MAP) that will enhance our understanding of pain, assist in evaluation and the prescription of specific therapeutic interventions, and further our ability to predict treatment outcome" (Turk & Rudy, 1987, p. 247).

France and Kirshnan (1990, p. 85), advocate a systems approach to the assessment of chronic pain. They stress the role of multiple contributors in the development and maintenance of chronic pain including; organic factors, personality, socioenvironmental factors, affective disorders and psychiatric disorders. The presence of all of these contributors, they suggest, must be evaluated in the assessment of chronic pain.

Multidimensional and multiaxial perspectives would seem to represent the state of the art in the pain assessment literature, and certainly set the direction for future assessment efforts. Turk and Rudy conclude their very convincing argument by warning that "health care professionals will be abrogating their responsibilities if they attempt to provide treatment for chronic pain patients without appropriate consideration and integration of the medical-physical, psychosocial, and behavioral dimensions in their treatment planning" (p. 247). Similarly, Camic (1989) states that "Assessment of chronic pain that does not take this integrative and multidisciplinary approach can no longer be justified and can be considered antiquated and out of step with developments of the last decade" (p. 53).

Related Assessment Techniques

The West Haven Yale Multidimensional Pain Inventory (WHYMPI)

Kerns, Turk and Rudy (1985) set out to develop a multidimensional pain instrument for the assessment of patients with chronic pain that was psychometrically sound and based upon the cognitive-behavioral perspective.

In accordance with recommendations of Turk and Kerns (1983), they designed a protocol that would assess the following components of pain: (a) the patient's perception of pain and its meaning; (b) the physical affective, cognitive, and behavioral responses to pain; (c) the impact of the pain on different aspects of the sufferer's life; (d) the responses of significant others; (e) the use of coping strategies; and (f) the descriptive characteristics of pain (intensity, location, quality, and chronology). The resulting instrument is a brief, self administered inventory that evaluates the many dimensions which contribute to chronic pain.

The WHYMPI includes 52 items which are divided into three parts, each of which contain several subscales. Part one evaluates five dimensions of the pain experience; pain interference, support and concern of significant others, pain severity, self-control, and negative mood. Part two assesses the response of significant others to the patient's communication of pain and includes; punishing responses, solicitous responses, and distracting responses. The third part examines the patient's participation in four types of daily activities; household chores, outdoor work, activities away from home and social activities. The WHYMPI was normed on patients with chronic pain in a veteran's administration hospital.

At present, the WHYMPI represents the future of pain assessment perhaps more than any other instrument. The authors recommend that it be used in conjunction with other behavioral and psychophysiological assessment strategies suggesting that it is not as comprehensive as originally planned.

Summary

The currently accepted conceptualization of chronic pain, therefore, asserts that the pain experience is the end result of a number of factors in combination. The relative contribution of physical, psychological, sociocultural, emotional, cognitive, and behavioral aspects is impossible to determine and certainly varies from one individual to the next. What is clear, however, is that pain is not one thing, but rather many, all of which must be taken into account in the assessment process. The author will now consider the meaning of pain - another dimension of the pain experience.

The Meaning of Chronic Pain

Pain is a paradox. It is one of the most common human experiences and yet its complexity renders it undefinable. "No definition has met the test of being universally acceptable or usable, because most definitions reflect inadequacies in the comprehensiveness or clarity" (Johnson, 1977, p. 139). This reality was stated by Sir Thomas Lewis more than 50 years ago when he wrote "I am so far from being able to define pain that the attempt could serve no useful purpose" (quoted in Buytendijk, 1961, p. 164).

Today emphasis has shifted away from definition and toward recognition of various components of the pain experience. As Craig (1984) notes, "each individual's experience of pain, and the manner of expression, can be explained only as a product of the suffer's personal background, the interpersonal context in which pain is experienced, the meaning the experience has for the individual,

as well as by the sensory input provided by noxious stimuli." Understanding has advanced considerably from a purely sensory model of pain to include appreciation of cognitive, emotional, and behavioral aspects. It is alarming, however, that to date, one critical aspect of chronic pain has been overlooked, and is conspicuously absent in the modern assessment process - that is, the meaning that the pain holds for the sufferer.

Historically, one can find evidence of an appreciation for the significance of pain and yet this aspect is rarely mentioned in current medical and psychological literature on pain assessment. One notable exception is a chapter written by Marion Johnson (1977) on the assessment of clinical pain. She advocates evaluation of the meaning of pain as part of the overall assessment process. Johnson suggests that this is especially important as the duration of pain is extended (chronic pain) and, when it becomes apparent that the etiology of the pain cannot be determined nor can the pain be cured. The assignment of meaning, she says, is a philosophical enterprise and can only be assessed through discussion of how the pain experience relates to an individual's personal life. Similarly, some 30 years ago, Cohen (1958) wrote "In the last resort, what matters in causing pain or its absence is the meaning of the experience to the organism". In addition, a study conducted by Copp (1974) revealed that people did assign variable meaning to their pain. Twenty-six percent of the subjects investigated said their pain had value, twenty-two percent considered their pain a struggle, nineteen percent felt their

pain represented punishment and therefore provided opportunity for redemption, and eleven percent described their pain as a challenge which would result in spiritual or emotional benefits.

Given these findings, one must ask why the meaning aspect of pain has been virtually overlooked in pain assessment. Thomas Szasz (1974) explains that accounts of pain suffer from mixing the vocabulary of physics and psychology, generally relating pain to some dysfunction of the body. He says that "This effort must be relinquished, or at least suspended if we are to penetrate deeper into the personal meaning and social significance of painful feelings and reports of pain" (p. 42). Another explanation is offered by Leshan (1964) who says that, while the meaning of pain has been debated philosophically for centuries, our current antimetaphysical culture largely ignores its significance and assigns little positive meaning. Buytendijk (1961) postulates that in today's society education and public awareness are so oriented toward technology, specialization, and scientific training that there is no time left for philosophy or reflection on the experience of pain. "Such limitations of one's mental horizons is in keeping with the attitude of pain in modern society" (p. 19).

A renewed appreciation for the existential significance of pain to the sufferer would contribute to a richer understanding of the pain experience, and may, in fact, become an integral part of the assessment process. Buytendijk (1961) cautions, however, that the meaning of pain cannot be defined in an

objective way. "It is obvious that the essential quality of pain, like all original personal experience (sensations, feelings, memories, expectations, etc.) can only be known immediately in the course of human existence. Pain always appears in a certain context which determines the significance of the subjective experience" (p. 164). It is also important to consider what is meant by meaning; that is, the meaning of meaning. Indeed, the complexity of this concept may have also contributed to its general absence in pain assessment. Therefore, the author will attempt to clarify how "meaning" is being used in this study. According to Redekopp (1990) the term "meaning" may be used in several ways and hence, may itself have different meanings. First, "meaning" may be employed in a definitional or intellectual sense to reflect the "sensibility of a linguistic construct" as in the meaning of a word. Second, "meaning" may refer to a concept held by an individual or group that requires a belief in something, an understanding of something, a commitment to something, or a relationship to something. Finally, "meaning" may be used philosophically or experientially to reflect a component of the human condition such as the purpose of life. It is primarily the third definition that describes how the term "meaning" is employed in this study, although, it could be argued that some overlap may occur with the second definition.

Keeping the foregoing in mind, several themes relating to the meaning of chronic pain will be considered. The author has reviewed philosophical, psychological, spiritual, existential, and literary descriptions, and less traditional

ways of conceptualizing pain. These findings will be integrated into the following thematic groups, reflecting the various possible meanings of pain for the individual with chronic pain.

Chronic Pain As Suffering

"If there is meaning in life at all, then there is meaning in suffering. Suffering is an ineradicable part of life, even as fate and death" (Frankl, 1959, p. 67).

Throughout recorded history we see reference to the suffering of man. It is quite as if humans need to suffer and, that suffering is part of being alive (Szasz, 1974). Every philosophical and religious system has considered the problem of suffering and its significance. The relationship between physical pain and suffering has also been debated. Husserl (in Buytendijk, 1961) says it is very important to distinguish between 'pain sensations' and 'suffering from pain'. The former is a state of mind, and the latter, an intentional act that represents our personal reaction to pain. Appreciation of this distinction remains today and is recognized by the United States Government Commission on the Evaluation of Pain (1986) which concludes that suffering comes when people attribute dire consequences to their pain and "perceive pain as a threat to their continued existence, not merely to their lives or bodies but to their integrity as persons" (p. 52). Bakan (1971) concurs that pain and suffering are phenomenologically distinct. Similarly, Cassell (1982) says that suffering occurs when a person perceives impending destruction. He defines suffering as "a

state of severe distress associated with events that threaten the intactness of the person" (p. 640). The distinction between pain and suffering is also stressed by Fordyce (1988) who writes "it is important to view separately nociception/pain as a signal system and suffering/pain-behaviour as a set of responses that blend past experience and anticipations with perceived stimuli" (p. 278).

Buytendijk (1961) states that the image of man in pain can be reduced to two basic categories; the injured and the suffering. Being injured relates to the act of being hurt or afflicted which causes the person to react verbally and physically "demonstrated by a man screaming, grimacing, retracting a bodily extremity, or reaching for the injured part" (p. 123). This is a sudden intense moment. It is a passing event that may be forgotten as quickly as the sensation abates (as in childbirth). Suffering, however, refers to the state of being hurt, and is not just the continued stimulation of pain receptors, but rather is compared with the permanent feeling such as joy, displeasure, anger, or fear. Pain takes on an empathic quality. The individual "sighs, groans, and laments. He twists and turns and moves his head one way or the other. His fists and teeth clench, and his eyes are closed in pain or fixed in an empty stare" (p. 123). The state of being hurt is passive in nature. It is a continual state of abandonment in which attempts to resist are replaced by a general weariness "as though one were being dragged away without protest" (p. 130). Although

not explicitly stated, Buytendijk's description of the state of being hurt not only describes suffering but also chronic pain.

The relationship between suffering and chronic pain is also considered by Thomas Szasz (1974) who states that humans have an inalienable right to suffer. Similarly, Schwarz (in Buytendijk, 1961, p. 87) wrote "It is man's privilege to be able to suffer". Suffering is uniquely human and separates us from animals, unconscious people, and madmen who do not or cannot suffer. Chronic pain, according to Szasz (1974) is the product of modern medical science which denies humans the right to suffer by assuming that pain is necessarily the symptom of some disorder. Physicians do not accept that pain and suffering may also represent an existential condition, meaningful and significant in their own right.

No longer will man be allowed to suffer the wounds inflicted on him by capricious 'slings and arrows of outrageous fortune'; if suffer he must, he will be compelled to undergo the standardized 'treatments planned for and imposed on him, in the name of freedom and health, by the Therapeutic State' (Szasz, 1974, p.56). This position suggests that for some, suffering is actualized via chronic pain. That is, chronic pain is perhaps a modern representation of suffering.

Chronic Pain As Existence

"The site of pain appears to be the zone where having emerges into being" (Marcel quoted in Buytendijk, 1961, p. 171).

The existential quality of pain has already been alluded to in terms of suffering. It is considered further by Leshan (1964) who says that some people are able to make sense of chronic pain as it helps them to understand themselves and the purpose of their own life. The sufferer discovers that "they are no longer metaphysically heedless; that their knowledge of their own existence has been deeply increased" (p. 123). This perspective tends to assign a noble quality to chronic pain and extends to pain purpose and function. This position is also supported by Buytendijk (1961) who asserts that the function of pain is simply to increase self-consciousness and by Carl Jung who proposes that there is no coming to consciousness without pain. Similarly, Kahil Gibran describes pain as the process of "breaking the shell and encloses your understanding" (quoted in Leshan, 1964, p. 123). People who suffer with pain for long periods tend to become Verklart (clarified). They quit troubling themselves with trivial details and acquire a more intimate understanding of what is important and what matters. It is interesting that this characteristic is often attributed to and acknowledged by people who are dying with chronic illness. It may also be that as part of the chronic pain experience, one is able to come to terms with their own existence.

Chronic pain sufferers may believe that if they can survive the misery of constant intractable pain, they can survive anything; becoming aware that strength is often born of adversity. As Nietzsche wrote "That which does not kill me, makes me stronger" (quoted in Leshan, 1964, p. 124). The deepening of

one's understanding and the strength that comes from suffering may indeed be the silver lining in the cloud of chronic pain. It may also be that appreciation of the purposefulness of pain somehow justifies the experience for the sufferer and allows them to believe that their misery makes sense. "Pain is the touchstone of what is actual and deepest in man. This is not character, the typical basic structure of the individual: it is the person, living through his intentional acts and becoming visible to himself in these" (Buytendijk, 1961, p. 132).

To take this position of pain as purposeful a step further, it may be that the destructive quality of chronic pain within the suffer's life actually provides an opportunity for growth. That is, as is postulated by Dabrowski and his colleagues, higher levels of human development (eg. intellectual, emotional) are only attainable through disintegration at lower levels (eg. psychomotor) (Dabrowski & Piechowski, 1977). While Dabrowski's theory of positive disintegration has not previously been applied to the experience of chronic pain, it seems particularly apt when one considers the disintegration, in many spheres, that typically accompanies chronic pain. This theory may also provide an elegant approach to intervention with those who have chronic pain. The sufferer may discover for themselves, or be helped to recognize the developmental potential that can be realized through their pain.

Chronic Pain as a Career

"I have naught but my pain and I want no more than it. My pain has been faithful to me in the past and remains faithful to me now" (James quoted

in Buytendijk, 1961, p. 17). The existential nature of chronic pain is even more central when pain comes to define the sufferer. The experience of being in pain may so disrupt people's lives, perhaps destroying relationships, ability to work, financial stability, self-esteem, etc., that all they have left is their pain. The notion of having to give up that which defines them may then be very threatening indeed. This sentiment is reflected in the comments of Girolamo Cardano (quoted in Leshan, 1964, p. 122) "I have discovered by experience that I cannot be long without bodily pain, for if once the circumstance arises, a certain mental anguish overcomes me, so grievous that nothing could be more distressing."

The individual in pain may actually be put in a peculiar position of becoming an advocate for their pain (Amundson, 1988) as concerned professionals attempt to take it away. Thomas Szasz (1974) refers to such individuals as "painful persons"; people who have made a career out of suffering. The seriousness of the person's devotion to suffering, he reasons, is measured in terms of their reluctance to give up their chosen career. Szasz also states that chronic pain would not necessarily lead to a career of suffering if the individual had something better to do with their life. This opinion is shared by Fordyce (1988) who in his self-named Fordyce's law states that "People who have something better to do don't suffer as much." However, if they do not, the sick role might be the best option open to them. "In such cases, unless the patient can find something more interesting or worthwhile to attend to, the

career of pain is apt to last til death" (Szasz, 1974, p. 46). Szasz points out that there is a reluctance on the part of the medical community to accept that suffering may in fact be a meaningful career that is not necessarily reflective of illness. The best way to help "painful persons" he believes is to encourage them to choose a new occupation. Inherent in this advice is acceptance that the individual in question would be willing to reconsider their "career of suffering".

Chronic Pain and its Spiritual Significance

"In suffering I am with him. Lord send me constant suffering that you may always be with me" (St. Bernard quoted in Buytendijk, 1961, p. 17).

The significance of pain and suffering has been approached by every great religion of the world and there is a surprising similarity in the themes that emerge despite differences in spiritual perspective. According to Brena (1978) "...all religions teach a spiritual training to help man retrace his way to his true divine nature, the soul; in so doing, he will eradicate forever the source of all sorrows" (p. 214). He suggests that ignorance of our own self-consciousness and our true spiritual nature in favour of an obsession with body consciousness is the source of all pain and suffering. Brena advocates spiritual growth and commitment in one's life to unselfish service, right thinking, and meditation as the path to health, peace, joy, and prosperity, and an end to chronic pain. An integral part of this process is surrendering of oneself to spiritual devotion regardless of the specific religious denomination.

> To achieve inner peace and a joyful life, we must surrender our little selves, our selfish pretence of being at the centre of the world and start climbing the mountain of universal love. There we will come to know ourselves not as pain prone bodies but as free souls untouched by sorrow and suffering (Brena, 1978, p. 218).

The theme of spiritual surrender in the face of pain and suffering is common in religious scripture and is perhaps best exemplified in the book of Job. This Old Testament poem provides one of the most dramatic descriptions of physical and emotional suffering. It tells the story of a wealthy and respected man who was "blameless and upright; he feared God and shunned evil" (Job 1:1, New International Version). God tests Job's faith first by destroying all that he holds dear; his children, his property, and his possessions. In spite of this, Job remains faithful "The Lord gave and the Lord hath taken away; may the name of the Lord be praised" (Job 1:21, New International Version). God tests Job further by afflicting him with disease and painful sores from the soles of his feet to the top of his head. Job struggles to understand why the same God who created him and bestowed upon him such prosperity would attack him so savagely and unjustly. From his own situation he perceives the injustice of the world, the oppression of the poor, and the impartiality of death (Eaton, 1985). Job's words epitomize physical pain and suffering;

> And now my life ebbs away;
>
> Days of suffering grip me.

Night pierces my bones,

My gnawing pains never rest.

The churning inside me never stops

Days of suffering confront me.

My skin grows black and peels;

My body burns with fever.

(Job 30: 16-17, 27-28, 30, New International Version).

Despite his suffering, lamenting, and questioning of the senselessness of his plight, in the end Job does not renounce God, but rather surrenders to him. The Lord rewards Job's faith by restoring his prosperity twofold, demonstrating the rewards of complete spiritual surrender.

Tales similar to that told in the book of Job have been traced back to the wisdom literature of the Egyptians, Babylonians, and Sumarians (Snaith, 1968), and indeed exist within the scriptures of other modern religious denominations. The common theme of God (Allah, Buddha, etc.) testing the faith of mortals through the infliction of pain and adversity, must certainly provide meaning to the experience of chronic pain for the devout sufferer. Crisis is followed by movement toward higher states of consciousness through acceptance and spiritual surrender (Brena, 1978).

In the western world, the powerful impact of Christianity is apparent. "Jesus' single achievement is His boundless suffering: through His suffering,

He rescued mankind from sin and became Saviour" (Szasz, 1974, p. 54). Indeed, Jesus is the perfect model of the acceptance of pain without emotional distress (Brena, 1978). Again, the chronic pain sufferer who is devout may come to accept their own pain as it brings them closer to their Saviour. As Buytendijk (1961) writes "Many a sick person has no need of words to prove that he has found the true answer to the true question since the existential purpose of pain has been fulfilled by his serene composure and patience in union with Christ, the 'Man of Sorrows'" (p. 18). Pain then provides modern man the opportunity to understand the Saint's joy in suffering.

Buytendijk (1961) also comments on contradiction of modern Christian philosophy that, at once, recognizes the importance of pain and suffering as they stimulate reflection and deeper religious consciousness and yet, at the same time, advocates the prevention of pain through medical intervention. He questions the legitimacy of a position which states that pain should be avoided if possible, but if it cannot be avoided, it might as well have some religious significance.

Chronic pain may also have religious meaning if the sufferer interprets their pain as God's punishment for sin or disobedience (Whitehead & Kuhn, 1990, p. 10). In fact, the word pain is derived from the Latin 'poena' meaning punishment (Brena, 1983, p. 1). The relationship between pain and punishment is established in Leviticus:

> But if you do not listen to me and carry out all these commands, and if you reject my decrees and abhor my laws and fail to carry out my commands and so violate my covenant, then I will do this to you: I will bring upon you sudden terror, wasting disease and fever that will destroy your sight and drain away your life. (Leviticus 26: 14-16, New International Version,)

In Psalm 38, there is also indication that pain is God's means of discipline:

> Because of your wrath there is no health in my body;
> my bones have no soundness because of my sin.
> My wounds fester and are loathsome...
> my back is filled with searing pain;
> there is no health in my body (Psalm 38: 3, 5, 7, New International Version).

If chronic pain is viewed in this spiritual light, it may even be welcomed as it allows for the atonement of sin.

Similarly, in Paradise Lost, Milton (1667) tells the story of man's fall from grace. In this classic tale of good versus evil, Lucifer is cast out of Heaven and sent to Hell because of his choice to defy God's covenant.

> Him the Almighty Power
> Hurled headlong flaming from th' ethereal sky
> With hideous ruin and combustion down
> To bottomless perdition, there to dwell

In adamantine chains and penal fire

Who durst defy th' Omnipotent to arms.

Lucifer personifies pain, darkness and evil. As men are tempted by him through their choice to commit sin they too shall suffer. For the person with chronic pain, their existence may indeed seem a living Hell.

But pain is perfect misery the worst of evils, and excessive overturns all patience. (Milton, 1667)

The eastern religions also consider the significance of pain and suffering. The Buddhist faith holds that there are three categories of suffering or 'duhkha' (Trungpa, 1976). These include 'all-pervading pain', 'the pain of alteration', and the 'pain of pain'. All-pervading pain is the most fundamental of these and constitutes the general pain of separation, dissatisfaction, and loneliness. It is the result of our efforts to protect ourselves; to keep part of us private and secret. All-pervading pain comes from our anger over our own insecurity. The pain of alteration is the outcome of our awareness that we are all carrying a burden through our lives. When the burden lifts temporarily, we worry about when and how it will return. Finally, the pain of pain follows logically from the first two. The concern over feeling insecure and burdened causes physical pain. Resisting physical pain only increases its intensity. Pain, Trungpa says, is our constant companion. It is an inevitable part of life that develops out of our quest for happiness and security. Every activity is the source of suffering. In

light of this belief, acceptance of pain is advocated and may, in fact be appreciated as a sign of growth.

Chronic Pain as Emotion

"Pain throws us back on ourselves: we actually 'feel' feeling" (Buytendijk, 1961, p. 114).

The question of whether pain belongs to the sensations or to the feelings has been debated philosophically for many years. According to Swanson (1984), historically there has been some reluctance to recognize the emotional dimension in chronic pain. The first reason for this is the emphasis placed upon peripheral-anatomic explanations for pain, which are supported by a sensory conceptualization of pain. This is especially important given that chronic pain is often seen as simply a temporal extension of acute pain. A second reason why emotions have traditionally been avoided in consideration of pain is that both patients and professionals may find it more convenient, in a psychological sense, to assume that chronic pain is associated with some tangible body event rather than in terms of loss, guilt or existential anxiety. Similar to Szasz (1974), Swanson states that both political and social systems support this understanding of chronic pain which favours sensation over emotion.

Despite these conditions, some pain theorists do stress the importance of emotions in chronic pain. Wall (1979) states that pain is better classified as awareness of a need state than a sensation and Wyke (1981) describes pain as

an abnormal affective state. Violon (1982, p. 23) suggests that depression may in fact cause chronic pain since 60% of her patients were apparently depressed before developing chronic pain. Certainly many of the symptoms of chronic pain such as anger, sleep disturbance, loss of control, low self-esteem, etc. are also associated with negative affective states, suggesting a strong relationship exists between pain and depression (Romano & Turner, 1985).

Swanson (1984) goes a step further in asserting that chronic pain is neither the result nor the cause of emotion but rather is itself an emotion. Specifically, he refers to chronic pain as "the third pathologic emotion". Swanson hypothesizes that chronic, nonprogressive pain is primarily a central neuropsychologic state that falls in the same category as depression and anxiety. He employs the following analogies in making his argument; "acute pain is to chronic pain as fear is to anxiety" and "acute pain is to chronic pain as grief is to depression" (p. 211-212). These analogies illustrate his belief that chronic pain, anxiety and depression are similar in that they all exist without an identifiable or adequate external cause. This, Swanson suggests, is in contrast to acute pain, fear and grief, were some causal event can generally be identified. Nevertheless, the sufferer will often attribute the emotion to an external event or bodily change and will demand removal of the offending cause. Swanson states that while chronic pain resembles depression and anxiety it should be recognized as a separate pathologic emotion. Similarly, Blumer and Heilbronn (1982) describe pain as a variant of depressive disease.

Morse (1982) also defines chronic pain in terms of emotion. He points out that individuals with chronic pain are often seemingly unaware of negative emotion (e.g., anger, depression, anxiety). They may also have difficulty expressing their feelings and differentiating between different affective states. Morse refers to this characteristic as alexithymia, which literally means the inability to express emotion (Nemiah, 1978). Instead of showing their feelings in an appropriate verbal or behavioral fashion, the sufferer may instead express emotion somatically via their chronic pain. Like Swanson, this position does not view chronic pain as the cause or result of negative emotion but rather as a representation of emotion. The importance of this thematic conceptualization lies in the possibility that chronic pain may be quite separate from physiological sensation and, may in fact serve a very necessary function to the sufferer in terms of expressing their feelings in an albeit unorthodox fashion.

Chronic Pain as Communication

"Pain is nature's cry of distress and call for help in danger. This is true both of the physical and of the moral organism" (Ihering, quoted in Buytendijk, 1961, p. 132).

Thomas Szasz (1974) asserts that chronic pain is primarily an idiom as opposed to an illness. Pain represents communication; whether the message is anger, aggression, a cry for help, the stating of a psychic situation (guilt, loneliness), or the expression of a need. Szasz (1957) outlines three different types of pain as communication. The first is intra-personal pain which is a

signal to the sufferer that the body is in danger. The second category of pain is an interpersonal request for help from another person, which is related to the physical pain. The third type of pain has no relationship to the body but is simply a means of interpersonal communication of fear, anger, guilt, etc..

Differentiating between these categories of pain is difficult if not impossible as they may coexist or even represent stages in the chronic pain process. Inherent in Szasz's position, however, is the importance of considering the message that is being conveyed via pain and recognition of the usefulness of pain in this respect. Logically, the sufferer would require another vehicle for such communication if they were to give up their pain. This is illustrated by the chronic pain sufferer who uses pain to assert himself (Corey, 1988). Instead of honestly stating his reservations about engaging in a particular activity, for example, he may instead say "Not tonight dear, I have a backache". This person needs to explore other means of asserting himself or communicating his feelings if he is to relinquish his pain.

Chronic Pain as Metaphor

O dreadful is the check - intense the agony -
When the ear begins to hear, and the eye begins to see;
When the pulse begins to throb - the brain to think again -
The soul to feel the flesh, and the flesh to feel the chain.
(From The Prisoner, Emily Bronte, 1900).

Consideration of chronic pain as a metaphor actually has two dimensions. The idea that chronic pain may be no more than a metaphor of something else is similar to the theme of chronic pain as communication. That is, suggesting that chronic pain is not the result of a physiological dysfunction, but rather is a somatic representation (or metaphor) of some other psychic state or need (Engle, 1959). The second dimension of chronic pain as a metaphor is reflected in the tendency of the sufferer to employ metaphor in describing their experience of pain. The author is reminded of a film on chronic pain in which a young woman equates her suffering to that of King Lear. She quotes his words as follows "You do me wrong to take me out o' the grave; Thou art a soul in bliss; But I am bound upon a wheel of fire, that mine own tears do scald like molten lead" (Shakespeare). Chronic pain, she explains, is like that!

Leshan (1964) likens chronic pain to a nightmare. He finds three points of commonalty between chronic pain and a "terror dream". In both cases, terrible things are happening to the person, and worse are threatened; outside forces are in control and the individual is helpless; and there is no time limit or end in sight. Leshan concludes that "This aspect of the psychic assault upon the integrity of the ego that accompanies severe, chronic pain is a major one: the patient lives during the waking state in the cosmos of the nightmare" (p. 120).

Pain may be personified by some sufferers as a thief who has the potential to steal precious parts of their life and health from them (R. Jevne, Personal Communication, January, 1990). Others still compare pain to death or living hell "After a few years, persons with pain do not fear death; what they fear is living. Some even envy patients with terminal cancer because they at least will die; the pain-ridden patient must live" (Eland, 1978).

Metaphors which illuminate some positive aspect of the pain experience are also common. The author has heard chronic pain sufferers compare their pain to the "rotten relative" - that member of our family who constantly embarrasses the rest of the clan by getting drunk at parties, telling off colour jokes, and always borrowing money. The "rotten relative" disrupts our lives and is generally a nuisance, but God forbid they go away, for if they did, who would we have to blame for all that goes wrong.

Indeed, the subjective nature of chronic pain makes it difficult to explain or describe. Metaphor is therefore a powerful means of sharing the experience with other people and may in fact provide important clues as to the meaning and function that the pain has for the individual; hence its usefulness in the assessment process. In addition, metaphor may constitute the chosen method of intervention with some sufferers. If a person's metaphor of pain can change their experience of pain may also change.

Chronic Pain as Financial Security

"No pain, no gain"

It is frequently stated in the literature that those who are in receipt of either disability or compensation benefits are actually being rewarded for having pain and thus reinforced, in operant sense, to maintain their pain behaviour (Dworkin et al., 1985). This position has developed out of the behavioral model which speaks in terms of reinforcement contingencies and secondary gain. Some writers assume a more moderate position stating that compensated individuals with chronic pain tend to be "slow to recover" (Beals, 1984; Sternbach, 1986), while others have proposed such extreme concepts as compensation neurosis and malingering to account for protracted chronic pain (Kessler, 1955; Weighill, 1983). More recent studies have challenged some of the generalizations and assumptions made regarding chronic pain and, in fact, have determined that compensated patients are just as likely to respond to treatment and return to gainful employment as their noncompensated counterparts (Jamison, Matt & Parris, 1985). A study undertaken by Dworkin et al. (1985) also indicates that the most important variable in predicting a compensated pain patient's response to treatment is their employment status, not their receipt of benefits.

Given the evidence, it is unreasonable to make generalizations about compensated pain patients. However, for some, their pain may indeed be meaningful at a monetary level. This would seem especially likely in cases

where the individual has endured financial hardship as a result of their pain and the limitations it has imposed upon their life. If, added to this, they aren't sure of their ability to be competitive in the job market or if they possess some fear related to return to work, the security of compensation or disability payments may be a very strong conscious or unconscious motivator to stay in pain. It is also possible that pain may become important to the sufferer in justifying or confirming their receipt of financial benefits and reciprocally, the ongoing payment of benefits confirms their pain.

Chronic Pain as Confirmation of Life

"Don't take away my pain."

Melzack and Wall (1982) point out that for the soldier wounded in battle, the experience of pain may be very welcome indeed as it confirms for the sufferer that he is still alive. Similarly, Beecher (1959) reports that soldiers wounded at Anzio Beachhead during World War II requested significantly less analgesic medication than equally afflicted post-surgery patients. He concludes that, for the soldier, the injury and concomitant pain provide an opportunity to be removed from the line of fire. Thus, paradoxically, the pain may represent escape from potential threat (death) rather than representing the threat itself.

Chronic pain may also fulfil a similar function especially as it may come to represent a resistance to death. Rossi and Cheek (1988) explain that individuals may be reluctant to relinquish their pain particularly when they are told "We have done all we can for you. You will just have to live with your pain

or you will end up jumping off the Golden Gate Bridge" (p. 244). This common attempt by practitioners to encourage the sufferer to accept their pain may, in fact, carry another connotation. That is, if the sufferer does not learn to live with their pain, they will die without it. "Very few physicians are aware of the fact that exhortation to 'live with pain' carries with it the shadow of meaning 'when you are free of pain you will be dead'" (Rossi & Cheek, 1980, p. 244). Such subtle meanings may consciously or unconsciously cause the sufferer to hang on to their pain despite apparent efforts to overcome it.

Summary

The themes identified here provide some indication of how chronic pain may be meaningful to the sufferer. They are not meant to be mutually exclusive nor are they exhaustive. In addition, the way in which the meaning component interacts with sensory, cognitive, affective, and behaviour aspects of pain may be very complex indeed. It is important, however, to recognize that the meaning one ascribes to their pain may contribute to the experience and maintenance of chronic pain, and therefore will ultimately reflect upon treatment. For this reason, it is essential that the meaning of chronic pain be considered in the assessment process. It would be difficult to do this in any kind of objective fashion given difficulties in the measurement and qualification of meaning. More than likely, evaluation will have to take place in conversation or structured interview with the sufferer.

Marion Johnson (1977) suggests that the meaning placed upon pain is, in large part, determined by the way in which pain alters a person's lifestyle. She therefore recommends that assessment be guided by pertinent questions which address possible changes in lifestyle; i.e., Has the pain hampered physical activities? Are changes negative or do they have some positive value to the person? Is there a change in self-concept? Is pain viewed as a challenge to overcome? etc. However, it may be that assessment guided by specific questions will limit or perhaps direct the themes of meaning identified. Consideration should also be given to open ended questions as in phenomenological enquiry.

The subjective nature of the meaning aspect of pain may indeed preclude objective assessment, but it does not preclude systematic assessment. More research and investigation is needed to consider how the meaning of chronic pain can be included in the assessment process. What is clear, however, is the danger of continuing to overlook this aspect of pain especially as it may impact both the understanding and treatment of individuals with chronic pain.

CHAPTER III

METHODOLOGY

Introduction

The method utilized in the present study represents a combination of qualitative and quantitative research paradigms. Briefly, the genesis of these two approaches is as follows. Quantitative research methodology grew out of the theory of positivism. Its purpose is to deductively attain knowledge through the verification of facts and causal relationships (Duffy, 1985, p. 226). As a result, the data collected in quantitative studies generally consists of objective numerical scores that can be analyzed statistically. Qualitative methodology and research, on the other hand, developed from the naturalistic perspective and employs inductive processes, often in the study of human experience (Bogdan & Biklen, 1982). The goal of this methodology is to generate new ideas and understanding through data obtained in the natural conditions of the phenomenon being studied. Data generally takes the form of descriptive accounts of experience provided by the subjects. The researcher then interprets and analyzes these accounts in an attempt to identify themes and patterns that will represent the essence or meaning of the human experience in question. (Bogdon & Biklen, 1982; Parse, Coyne & Smith, 1985).

The qualitative methodology utilized in the present study was a descriptive approach. This methodology is most appropriate when little is know about the topic in question (Field & Morse, 1985), as is the case in the

assessment of meaning in chronic pain. The descriptive approach generally begins with specific objectives and proceeds to meet them through the use of structured and unstructured questions asked via personal interviews or questionnaires. The same questions are usually asked of all participants. Analysis involves review of the resulting data towards the identification of common themes. The descriptive methodology generally yields new knowledge and information on the chosen topic (Bogdan & Biklen, 1982; Seaman, 1987).

The present researcher chose to use both quantitative and qualitative methodologies in this investigation of chronic pain assessment. In a practical sense, quantitative and qualitative research strategies complemented one another in undertaking this research. It was considered necessary to incorporate both given the general purpose of the study. That is, it is proposed that one of the major historical problems in chronic pain assessment is the reliance upon quantitative data and methods. Most of the assessment techniques described in the literature attempt to objectify pain thus rendering it measurable and indeed, the majority of research conducted on chronic pain employs quantitative methodologies. Given this tradition, it is not surprising that the personal significance of pain has been all but overlooked. While self-report is common in studies of chronic pain, it generally exists within structured questions and scales which direct the scope of response to a great degree. The sufferer is rarely asked to simply describe their experience of pain. As Colaizzi states "if only observable, duplicable and measurable definitions have

psychological validity, then a crucial dimension of the content of human psychological existence, namely, experience, is eliminated from the study of human psychology" (1978, p. 51).

The emphasis upon the measurable and quantifiable is especially alarming in the study of such inheritantly subjective experiences as love, trust, and indeed, pain. If psychologists are to understand and assess the many dimensions of chronic pain including the sensory, behavioral, cognitive, affective and meaning aspects, then it is necessary to employ quantitative and qualitative approaches in both assessment and research. The sensory and behavioral dimensions naturally lend themselves more to quantification whereas cognitive, affective, and meaning dimensions may be better studied through qualitative exploration. Certainly, much overlap exists.

In this study then, the use of both qualitative and quantitative approaches made sense practically and also provided a metaphor for the state of the art in chronic pain assessment. Although authors have pointed out difficulties in combining these two approaches (Patton, 1990), increasingly this is an acceptable practice. Given that the objective of the study was to gain a better understanding of the assessment of chronic pain, and specifically the influence of different types of assessment information, the combination of approaches was appropriate. The researcher was interested in determining if the quantitative and qualitative data would converge in support of a new understanding of the assessment process.

Participants

The Psychology Department of the Workers' Compensation Board (WCB) subcontracts with approximately 120 private practice psychologists across Alberta for the provision of services to their clientele of injured workers. These psychologists served as potential subjects for the present investigation. No attempt was made to randomly select participants. Rather, sampling was opportunistic, purposeful (Miles & Huberman, 1984; Parse et al., 1985), and criterion based. That is, psychologists who actively provided counselling to WCB referred cases were utilized because of their experience with clients who have chronic pain. Psychologists working at the WCB Rehabilitation Centre were also asked to participate in this study. They too had considerable clinical experience treating chronic pain. All psychologists remained anonymous to the researcher and their participation was voluntary.

Procedure

Chronic Pain Assessment

The researcher selected for comprehensive assessment one client with chronic pain referred for interdisciplinary treatment at the Alberta WCB, Rehabilitation Centre. It is important to note that this individual was not the subject of the investigation but rather provided the assessment information that was reviewed by psychologists who participated in the study.

The client met the following criteria stipulated in advance;

1. Sustained a work related musculo-skeletal injury at least one year prior to selection.
2. Experiences persistent physical pain of varying intensities.
3. Is under 50 years of age.
4. Is English speaking and relatively articulate.
5. Has no history of psychiatric disorder.
6. Has not received surgery for musculo-skeletal injury.
7. Has experienced a disruption or change in at least seven of the following areas: (a) work; (b) normal daily activities; (c) recreation and social life; (d) sexual life; (e) sleeping; (f) financial stability; (g) relationships with family and friends (excluding spouse); (h) relationship with spouse; (i) emotional stability; and (j) cognitive processes.

The client was selected from among many potential clients who met the above criteria. The decision to include her in the research was largely due to her willingness to be involved, and her ease with verbal communication.

Demographic and historical data were collected on the individual chosen for assessment via a structured interview format. This interview was completed with the client at the outset of the assessment process. Information requested included details of physical and psychological health, injury, recovery process and rehabilitation; description of medical, pharmacological and psychological

treatment; and personal, familial, social, recreational and vocational background. This information was summarized in a comprehensive historical report of the client (Client Information Report, Appendix A).

The assessment of the client included the following components:

Psychometric Assessment

The client was assessed using a selection of psychometric instruments which are most commonly employed in a comprehensive assessment of chronic pain (Burckhardt, 1990, p. 866; Camic, 1989, p. 49-63; Eggebrecht et al, 1989, p. 71-90; Williams, 1988). The objective was to undertake an assessment that is representative of what is common in the evaluation of chronic pain as identified by the literature. For the most part, this was completed by the client with only limited intervention and instruction necessary on the part of the researcher, as is consistent with the administration of each instrument. All psychometric evaluation was undertaken in a one week period prior to provision of any treatment. Attempts were made to schedule the presentation of instruments such that the client was not inordinately taxed or fatigued. The order of test completion was as follows:

Day 1 Self-rated visual analog scale of pain intensity,
The McGill Pain Questionnaire (MPQ).

Day 2 Self-rated visual analog scale of pain intensity,
The Minnesota Multiphasic Personality Inventory (MMPI).

Day 3 Self-rated visual analog scale of pain intensity,

The Beck Depression Inventory (BDI), The Multidimensional Health Locus of Control (MHCL).

Day 4 Self-rated visual analog scale of pain intensity,

State-Trait Anxiety Inventory (STAI), The Symptom Check List 90 - Revised (SCL-90-R).

Day 5 Self-rated visual analog scale of pain intensity,

The West Haven Yale Multidimensional Pain Inventory (WHYMPI).

The results of the psychometric assessment were interpreted and written in report style by the researcher (Assessment Report, Appendix B). Descriptions of various assessment instruments were provided. Test scores were also attached for additional interpretation. The researcher had another psychologist familiar with the assessment of chronic pain and with the specific instruments used review the interpretation of test results and the subsequent report. He was asked to make recommendations for changes to the report. These were then incorporated into the Assessment Report.

Meaning Assessment

The researcher conducted an interview using both open-ended questions (Interview Questions, Appendix C) and unstructured enquiry to determine the personal significance of the chronic pain experience to the individual (Miles & Huberman, 1984; Parse et al., 1985). This interview was conducted on the third assessment day. Questions asked were reflective of themes of meaning

identified in the psychological, philosophical, spiritual, and anecdotal literature. The interviewer also explored additional themes of meaning identified by the participant. The interview was tape recorded and was approximately 45 minutes in duration. The participant listened to this tape recording and was invited to make any amendments or additional comments. She did not wish to add anything.

The informed consent of the client to be a subject for this study was obtained in advance of any assessment, and her anonymity was assured. Given that assessment information included an audio taped interview, it was necessary to identify the client by her first name (Doris). The researcher obtained the client's permission to do so. Following completion of assessment, the client was given the opportunity to access all Psychological services ordinarily available to WCB clientele.

The Study

Psychologists participating in the study were randomly assigned to one of three conditions determined by the type of assessment information provided;

Condition I - Psychometric Assessment Information

Subjects received the Assessment Report summarizing the results of psychometric evaluation.

Condition 2 - Meaning Assessment Information

Subjects received the Audiotaped Client Interview on which the researcher explored the meaning of pain with the client.

Condition 3 - Psychometric and Meaning Assessment Information

Subjects received both the Assessment Report and the Audiotaped Client Interview.

In addition to specific assessment information, participants in all three conditions received the Client Information Report (Appendix A).

After reviewing assessment information provided, subjects were asked to make recommendations regarding intervention with the client. There were three dependent measures for all subjects:

1. Participants were asked to rank order a list of fifteen possible treatments for chronic pain from that which they would be most likely to apply or recommend to that which they would be least likely to apply or recommend (Appendix D).
2. Participants were asked to indicate the likelihood of applying or recommending each of the fifteen possible treatments for chronic pain on a likert scale (1 - not at all likely, 2 - somewhat likely, 3 - likely, 4 - very likely) (Appendix B). The fifteen psychological interventions presented for consideration on the first two dependent measures included those which are most commonly used in the treatment of chronic pain as identified in the literature (Amundson, 1988; Baszanger, 1989; Benjamin, 1989; Gamsa, Braha & Catchlove, 1985; Isele, 1990, p. 389-431; Murata, 1987, p. 315-319; Meichenbaum & Turk, 1987, p. 85-89; Pither, 1989).

Some nontraditional strategies were also included (eg. pastoral counselling).

3. Finally, participants were asked to respond in writing to three questions: (a) describe what you consider to be the major issue presented by this client to which you would direct intervention; (b) describe what aspect of the assessment information was most useful or important in identifying this issue; (c) describe specifically what type of intervention(s) you would use or recommend for the client in question and why (Appendix F).

In addition to dependent measures, all participants were asked to provide the following demographic information; gender, age, education, work history, theoretical and practical orientation, and previous experience with chronic pain clients (Appendix G).

Packages were mailed out or delivered to all potential participants. Each package included the following items with instruction for completion in the specified order.

1. Covering letter (Appendix H, Appendix I, and Appendix J)
2. Consent form (Appendix L)
3. Personal/Professional Information (Appendix G)
4. Client Information Report (Appendix A)
5. Assessment information as per specific experimental condition
6. Dependent measure A - Rank order (Appendix D)

7. Dependent measure B - Likert scales (Appendix E)

8. Dependent measure C - Questions (Appendix F)

A single word (Spring) was spoken at the end of the audiotaped interview. Participants in conditions which included the audiotape were asked to write the word in a specified place on the covering letter. This process insured that these subjects listened to the entire taped interview.

Analysis of Data

Quantitative Analysis

The data from each of the three conditions was collapsed and analyzed first via descriptive statistics. The Kendall Coefficient of Concordance was used to determine how similar the groups were in ranking types of treatment. The Kendall Coefficient of Concordance is a nonparametric analysis that is used to determine the degree of association among more than two rank orders taken simultaneously (Siegel, 1956, p. 229), hence its appropriateness in analysing rank order data in the present investigation. In addition, the rank order for each condition was compared with the rank order for each of the other conditions using the Kendall Rank Correlation Coefficient to determine if there was an association between any two groups in the ranking of treatment choices. Finally, analysis of variance was used to determine if condition specific mean ranks for individual therapy choices were significantly different. The results of the Likert scale data for each of the treatment strategies were compared across the three groups using Analysis of Variance and Multiple Analysis of Variance to

determine if groups differed significantly in the likelihood of recommending different types of treatment.

Descriptive Analysis

Written answers to the three questions for each of the experimental conditions were subjected to descriptive analysis in which patterns and emergent themes were identified and described (Bogden & Biklen, 1982; Miles & Huberman, 1984). The descriptive analysis first required identification of theme categories from common answers to the three research questions or concepts repeatedly mentioned by participants. The process is described as an "unconscious amassing of particulars that go together" (Miles and Huberman, 1984 p.216). The identification of categories was followed by a deeper level of analysis which required the researcher to compile the various elements into unified descriptions. "The major themes are transformed into a higher level discourse in the move from the subjects' language to the language of the researcher" (Parse et al., 1985, p. 94).

In applying the descriptive analysis procedure to qualitative data from the present study, the researcher first read and reread all descriptions provided by participants in each of the three conditions to get a general sense of any themes present. This was followed by transferring participant responses into three word processor files according to experimental condition. Each of the files was further broken down into three sections determined by the specific

questions participants responded to: (a) Major issue presented; (b) Most useful aspect of assessment information; and (c) Recommended intervention.

The resulting files and sub-files were then reviewed toward identification of common themes and patterns of response. Each of the themes identified was given a letter code that was then assigned to specific subject responses and used to organize responses into thematic categories. As Bogdan and Biklen (1982) state, the goal was not so much to uncover the definitive codes, but rather to provide the best categorization for the data in question.

At this point, raw data, data files and theme categories were presented to a colleague, familiar with qualitative analysis, for review and consideration. Following discussion, some minor amendments were made.

The researcher then subjected the participant responses, now organized by thematic category, to a deeper level of analysis. This required logical abstraction of the data into descriptive statements representative of the theme identified. This process was guided by the researcher's conceptual framework, review of the literature and knowledge of the subject area (Parse et al., 1985). The researcher's own experience as a therapist assessing clients with chronic pain and making recommendations for intervention contributed to the translation of participant responses into unified descriptions.

The resulting descriptions were again subjected to review by an identified colleague. His recommendations led to some reconceptualization and revision of theme statements. The researcher then had a participant from each of the

conditions review the themes that were generated specific to their condition. They were invited to comment, provide criticism, and make recommendations for amendment. There was strong endorsement for the theme descriptions offered by all three individuals, and only minor changes recommended.

Trustworthiness of the Study

The use of both qualitative and quantitative methodologies in the present study created some complexity in the consideration of trustworthiness. As mentioned at the beginning of this chapter, these two methods of inquiry are rooted in different philosophical paradigms. The basic issue related to trustworthiness, however, remains the same. That is, "How can an inquirer persuade his or her audiences (including self) that the findings are worth paying attention to, worth taking account of?" (Lincoln & Guba, 1985, p. 290). The traditional questions asked in judging trustworthiness or goodness of research include:

1. Truth value - How can one establish confidence in the "truth" of the findings of an inquiry for the subjects (respondents) with which, and the context in which the inquiry was carried out?
2. Applicability - How can one determine the extent to which the findings of a particular inquiry have applicability in other contexts or with other subjects (respondents)?
3. Consistency - How can one determine whether the findings of an inquiry would be repeated if the inquiry were replicated with the

same (or similar) subjects (respondents) in the same (or similar) context?

4. Neutrality - How can one establish the degree to which the findings of an inquiry are determined by the subjects (respondents) and conditions of the inquiry, and not by the biases, motivations, interests, or perspectives of the inquirer? (Lincoln & Guba, 1985, p. 290)

Within a conventional or positivist paradigm, certain criteria have developed in response to these questions regarding trustworthiness. These include internal validity, external validity, reliability, and objectivity.

Internal validity speaks to truth value, and specifically refers to the ability to eliminate competing arguments for the research outcome, other than those attributable to the experimental manipulation (Campbell & Stanley, 1963). The concept of internal validity was further elaborated in 1979 by Cook and Campbell, and now includes both statistical conclusion validity, which refers to the possibility that research outcomes might have arisen by chance (sampling error), and internal validity, which refers to the "approximate validity with which we infer that a relationship between two variables is causal, or that the absence of a relationship implies the absence of cause" (Messick, 1989, p. 57).

Threats to statistical conclusion validity and internal validity include history, maturation, testing, instrumentation, statistical regression, selection, and experimental mortality. In the present investigation, the random assignment of

participants to the three different conditions reduced the threats to internal validity, with the exception of experimental mortality. The drop-out or nonresponsiveness of participants according to condition only became apparent during data collection. Fortunately, the response rate was approximately equal across conditions suggesting that it was not the differences between conditions that lead to nonparticipation.

External validity refers to the applicability or representativeness of the research findings. That is, to what extent can the results of the research be generalized to other people, circumstances, contexts, and settings (Campbell & Stanley, 1963). External validity was also reconceptualized by Cook and Campbell to include both construct validity and external validity. The former refers to the ability to generalize the causal relationship to other operational measures and cause and effect relationships and, the latter specifically addresses generalizability to different people, settings, and times (Messick, 1989, p. 57). Threats to external validity are those aspects of the experimental design which limit generalizability including selection effects, setting effects, history effects, and construct effects (Lincoln & Guba, 1985, p. 291-292). Paradoxically, the greater the degree of intervention, manipulation, and control in any research, the less natural the results, and hence, the more difficult it becomes to generalize them to other settings. Therefore, reducing threats to internal validity will increase the threats to external validity.

Reliability is responsive to questions regarding consistency, and is typically thought of as a precondition to validity. That is, if a study is not reliable, it cannot be valid. Reliability concerns the extent to which the research findings would be replicated if the procedure were repeated. It literally addresses the stability, predictability, dependability, and consistency of the research results (Kerlinger, 1979). Reliability is typically threatened by imprecise or careless methodology, instrument variability or decay, and general ambiguities in research design.

Finally, objectivity concerns the neutrality of the research. That is, are the research outcomes determined by the subjects and the conditions and not by the biases, motivations, values, or interests of the researcher?

Lincoln and Guba (1985) state that the criteria of internal validity, external validity, reliability, and objectivity are acceptable and reasonable when judging traditional research methodologies that are rooted within the ontological and epistemological framework of logical positivism (e.g., quantitative methodology). They, however, argue that traditional trustworthiness criteria are unworkable when evaluating the goodness of constructivistic or naturalistic approaches (e.g. qualitative research) given that the underlying paradigm rejects such conventional axioms as realist ontology, subject/object dualism, linear causality, and stability of phenomena (Guba & Lincoln, 1989, p. 233; Lincoln & Guba, 1985, p. 293). As a result, parallel or quasi foundational trustworthiness criteria were advanced (Guba & Lincoln, 1989, p. 233) that respond to the same issues

of truth value, applicability, consistency, and neutrality within a naturalistic paradigm. These parallel criteria include credibility, transferability, dependability, and confirmability.

While the present study employed both quantitative and qualitative research methodologies, as mentioned previously, the objective of the investigation was to gain a greater understanding regarding the role of meaning information in chronic pain assessment. As a result, even statistical data generated were examined relative to the results of descriptive data in an inductive effort to better understand the assessment process. Although such strategies as random assignment of participants to conditions were employed to reduce threats to internal validity and, hence, allow for the interpretation of quantitative data, the objective was not to forward a definitive cause and effect relationship. Therefore, it was considered most appropriate to judge the trustworthiness of the present research methodology relative to the following criteria used in evaluating and establishing the adequacy of naturalistic inquiry.

Credibility

The criteria of credibility speaks to the truth value of the research findings. Specifically, do the conclusions represent the truth regarding the responses of the participants. There are a number of techniques that are recommended in ensuring credibility (Lincoln & Guba, 1985, p. 301). The techniques employed in the present investigation included data and methodology triangulation, peer debriefing, progressive subjectivity, and

member checks. Triangulation refers to the use of multiple and different sources of data in order to reduce the possibility of bias that would come from only using one source (Mitchell, 1986; Lincoln & Guba, 1985, p. 305). In this study, the researcher collected data from many individuals and, therefore, it was possible to verify emergent themes against the responses of other participants in the same condition. Methodological triangulation was also employed through the use of both qualitative and quantitative data collection.

Peer debriefing was undertaken by the researcher with an identified colleague who possessed an understanding of qualitative methodology, descriptive analysis, and chronic pain assessment. The input of the debriefer was solicited at various stages in the process including discussion of the research design, review of raw data, data files, initial theme categories, and theme descriptions. The researcher asked the peer debriefer to review the Client Information Report and Assessment Report for clarity and completeness. Finally, the researcher discussed the findings of the study with this individual, as the conclusions and implications were being formulated. Throughout the investigation, considerable informal peer debriefing also took place with the researcher's workmates and sister (who was also undertaking qualitative research).

Member checks constitute a means of checking the credibility of research constructions with the participants upon whose responses the constructions (themes) were based. Unfortunately, the fact that participants in

the present investigation were located across the Province of Alberta made systematic review and reactions to resulting descriptions logistically problematic. As a result, a single respondent from each of the three conditions was asked to review the descriptive themes generated for their condition, and indicate the degree to which the themes were representative of their assessment and recommendations for the client. The participants selected for this purpose worked with the Psychology Department of the Workers' Compensation Board and, hence, were accessible to the researcher for both formal and informal member checks. This advantage of access and proximity may have been balanced out, however, by the potential bias caused by the relationship of the researcher to these individuals.

A member check was also undertaken with the client, who provided the assessment information for this study. She was given the opportunity to read the Client Information Report, as well as to listen to the audiotaped interview. In both instances, she verified the content as being an accurate and complete representation of her experience.

Transferability

Similar to external validity, transferability refers to the degree to which research findings can be generalized to other contexts. Lincoln and Guba (1985) state that transferability is determined by the applicability or fittingness of the results to other situations. Of greatest importance in the present investigation was the degree that participants represented the general group to

which the findings would be extended - that is, psychologists involved in the assessment and treatment of chronic pain. The participants in the present study included psychologists from across Alberta, all of whom were, or had in the past, provided psychological services to clients with chronic pain referred by the Alberta Workers' Compensation Board. They also had in common the fact that all such referrals involved injured workers who were in receipt of compensation benefits. These characteristics of the sample may limit the ability to apply research results to psychologists working with clients in different settings or under different circumstances. In order to maximize transferability, the researcher provided a thorough and detailed (thick) description of the working hypothesis, experimental context, and the research data (including response excerpts). Based upon this description, others can then make judgements as to the applicability of research findings to their own or other situations (Guba & Lincoln, 1989, p. 242).

Dependability

Dependability is a parallel criterion to reliability and refers to the consistency or stability of the data. Within a naturalistic paradigm, it is not expected that the methodology or resulting themes would be the same in a replication of this research. Rather, it is expected that there would be changes in the method of data collection and the emergent themes. "Far from being a threat to dependability, such changes and shifts are hallmarks of a maturing, and successful, inquiry" (Guba & Lincoln, 1989, p. 242). Therefore,

dependability focuses not upon the degree to which the research procedure would yield the same findings if it was repeated, but rather on whether another person reviewing the research data would come to the same conclusions, or at least agree with the researcher's interpretation. The method recommended for establishing dependability is the use of an audit trial. In the present study, the researcher retained all raw data, print-outs of word processor files, working documents reflecting the conceptualization of theme categories, theme descriptions, and the reconceptualization of the working assumptions. Although a formal audit was not undertaken, the process of peer debriefing included review of much of the information described above. The opportunity to have another individual available to provide this review function and to support, challenge, and/or question the developing constructions was a particularly valuable aspect of the research process.

Confirmability

Confirmability as a goodness criterion is roughly analogous to objectivity, and refers to the neutrality of the data (Guba, 1981). Of concern is the degree to which the data reflect the responses of the participants rather than the biases, motivations, or interests of the researcher. Confirmability can be achieved by acknowledging the assumptions, presuppositions, or specific orientations of the research, and by directly considering how they may impact the descriptive analysis. This process is known as bracketing (Giorgi, 1985, p. 90). The present researcher reported her own experience with pain

assessment, and also acknowledged her working assumptions regarding anticipated research outcomes. Again, quotes from participants were included to illustrate themes and ensure that the data was available to support the researcher's conclusions.

Limitations of the Present Research

The greatest limitations of this study is the artificial nature of asking clinicians to make choices about treatment based upon only assessment information, and without the benefit of in-person interaction with the client in question. This design was, however, necessary in order to separate the effects of the psychometric and meaning assessment information. In addition, it allowed for ease of contact with a range of psychologists across the province of Alberta.

Ethical Considerations

As mentioned previously, the anonymity of both the client and research participants was insured. The client and all participants were asked to sign a written consent form prior to participating in the study (Appendix K and Appendix L). In addition, information from the psychologists was coded and not identified by their name. This was considered important in that it allowed psychologists to choose whether or not they wished to participate and also to be honest in their responses without concern that their future relationship with the WCB (i.e. referrals) would be influenced. The results of the study have been summarized and will be made available to both the participants and the

client who was assessed. This proposal for research was reviewed by the ethics committee of both the University of Alberta and the WCB.

CHAPTER IV

RESULTS

Introduction

In presenting the results of this study, the author will first provide a description of the sample of participants. The quantitative analysis of rank order and likert scale data will then be presented followed by the descriptive analysis of participant responses to the three qualitative questions. The chapter will be concluded with a summary which integrates all results.

Description of the Sample

Of the 120 psychologists who were asked to participate in the present study via receipt of the mailed research package, a total of 32 responded. This represents a 27% response rate. Twenty three (72%) of the respondents were male and nine (28%) of the respondents were female. Twenty (62.5%) of the participants had a Ph.D. and the remaining twelve (37.5%) had a Master's degree. The age of respondents ranged from 28 to 77, with a mean age of 42 years. A diversity of professional experience was represented among participants including work in private practice, hospitals, rehabilitation facilities, school systems and administration. A broad range of theoretical and practical orientations toward psychological interventions were also noted. All respondents had in common experience working with clients who had chronic pain albeit with a variety of different approaches and in a variety of different settings.

As mentioned in the Methodology section, potential subjects were randomly assigned to one of the three experimental conditions prior to mail-out of the condition specific research packages. Of the 32 psychologists who responded, 12 were in condition 1, 11 were in condition 2 and, 9 were in condition 3.

Quantitative Analysis

Because of the small sample size, the results of quantitative analysis must be interpreted cautiously. The possibility of making Type II errors is greater with a small sample size. That is, there may be significant differences between groups that are not apparent through statistical analysis because of the number of subjects per condition. As a result, the outcome of the quantitative analysis of rank order and likert scale data are considered carefully and seen only to augment the descriptive data analysis.

Rank Orders

The mean ranks of the fifteen possible treatment choices for all of the conditions together and, for each condition separately are presented in Table 1. Smaller numbers are representative of treatments most recommended by participants, whereas, larger numbers indicate those interventions least recommended. The relative rank of a particular treatment is shown in brackets after each mean. In reviewing the ranks for the three conditions, it is apparent that some interventions were highly recommended for the client in question regardless of the assessment information provided. Relaxation Training,

Cognitive-Behavioral Therapy, Vocational Counselling and Marital Relationship Counselling were all among the seven most highly ranked interventions for each of the experimental conditions. Similarity also exists across conditions in the treatments least highly ranked. In all three conditions, Substance Use/Abuse Counselling, Sexual Therapy, Pastoral/Spiritual Counselling, Strategic Pragmatic Therapy and Supportive Group Therapy were among the seven interventions least highly ranked. This observed similarity between conditions was supported by the Kendall Coefficient of Concordance which indicated that there was an association among the groups in the ranking of the 15 treatment choices ($W = .5215$, $p < .001$). The significant value of W indicated that participants across conditions applied essentially the same standard in ranking the interventions. Kendall Rank Correlation Coefficients also identifed significant positive correlation between Condition 1 and Condition 2 ($r = .421$, $p < .05$), Condition 1 and Condition 3 ($r = .644$, $p < .001$), and Condition 2 and Condition 3 ($r = .695$, $p < .001$). These results indicate a general agreement among participants in the ranking of treatment choices regardless of the assessment information reviewed.

An analysis of variance was undertaken to determine if there were any significant differences among the condition specific mean ranks for individual treatment choices. These results are also presented in Table 1. Significant differences were noted on Treatment 1 - Relaxation Training [$F(2,28) = 3.97$, $p < .05$] and on Treatment 6 - Stress Management [$F(2,28) = 3.94$, $p < .05$].

Post hoc Duncan tests indicated that for both Relaxation Training and Stress Management, mean ranks for Conditions 2 and 3 were not significantly different from one another but that mean ranks for Conditions 2 and 3 were both significantly different from Condition 1 ($p < .05$). Therefore, subjects who received Meaning Assessment Information only (Condition 2) and who received both Meaning and Psychometric Assessment Information (Condition 3) ranked Relaxation Training significantly higher and Stress Management significantly lower than those subjects who received Psychometric data only (Condition 1).

On three other treatments, the differences between mean ranks approached significance. These included Treatment 2 - Hypnosis [$F(2.28) = 2.59$, $p = .09$], Treatment 9 - Behavioural Therapy [$F(2.28) = 2.65$, $p = .09$], and Treatment 12 - Cognitive Behavioural Therapy [$F(2.28) = 2.58$, $p = .09$]. A review of Table 1 shows that, in all three cases, mean ranks for Conditions 2 and 3 were similar to one another and less similar to the mean rank for Condition 1. While it is not reasonable to draw conclusions based upon this data, these findings do appear to support a commonality in treatment recommendations made by participants in Conditions 2 and 3, and a difference from the recommendations of participants in Condition 1.

Likert Scales

A multiple analysis of variance (MANOVA) was used to compare all likert scales taken together for the three experimental conditions. Prior to conducting the MANOVA, tests of homogeneity of variance were undertaken, and revealed

that the variances for the three conditions were equal. The MANOVA indicated that the difference between the groups was not significant (Wilks lambda F (30,28) = 1.78; p = .060).

Given that the results of the MANOVA approached significance, a univariate analysis of variance (ANOVA) was performed on each of the 15 likert scales taken individually to determine if differences existed between conditions in the likelihood of using a particular intervention. This analysis revealed that the three conditions were significantly different only on scale 6 - Stress Management (F (2,28) = 5.14, p <.01). Post hoc Duncan analysis on the Scale 6 ANOVA showed that ratings on likert scale 6 for Conditions 2 and 3 were not significantly different from one another but both were significantly lower than Condition 1. Therefore, subjects who received Meaning Assessment Information Only (Condition 2) and those who received both Meaning and Psychometric Assessment Information (Condition 3) were significantly less likely to recommend stress management than those who reviewed Psychometric Assessment Information only (Condition 1).

Descriptive Analysis

The qualitative results are presented in such a way as to maximize comparison among the three conditions. That is, descriptions are presented according to the three questions asked. First the author will present descriptions of participant's responses given in all three experimental conditions to (a) Major Issue Presented. This will be followed by response descriptions for

(b) Most Useful Aspect of Assessment Information and then for (c) Recommended Intervention.

Each of the descriptions will include a theme statement(s) (e.g., The client would benefit from relaxation training) followed by examples in the form of response excerpts from participants. The use of examples helps make concepts more meaningful and also allows the reader to evaluate the researcher's interpretation. Excerpts selected for presentation are illustrative of the theme statement and representative of the majority of subjects in that condition. Theme statements presented are endorsed by the majority of respondents in each condition. In many cases, themes were endorsed by all respondents in a given condition. When more than one theme emerged for a condition, the one that was most frequently or primarily endorsed by participants is presented first.

At the conclusion of each section (Major Issues Presented, Most Useful Aspect of Assessment Information, Recommended Intervention), the researcher comments on similarities and differences among thematic categories identified in the three conditions. Two additional themes that emerged in written feedback from participants are also presented.

Major Issue Presented

Participants were asked to respond to the question: "Describe what you consider to be the major issue presented by this client to which you would direct intervention."

Condition 1 - Psychometric Assessment Information

Themes.

1. Trauma, abuse, and illness endured by Doris during her childhood and adolescence are the central issues presented. Her dysfunctional history has contributed significantly to her relationship problems, her difficulties at work and her inability to cope with her injury. Unresolved emotional difficulties from Doris' past are resurfacing. She demonstrates pathological responses and personality problems as a result of her background.

> "Withdrawal from outside activities, social isolation, interference in daily functioning due to pain, problems at home and work, are the results of the client's difficulties with adaptation to past trauma."
>
> "I have often found that clients with a similar history of physical pain, illness, physical abuse and psychological abuse, feel helpless in the face of current pain and disruption in their lives."
>
> "Unresolved issues relating to mother have left this woman with difficulties with depression, anger, self-esteem and her present circumstances are provoking a re-experience of these issues."
>
> "Doris has retreated to a safer more predictable environment and familiar way of responding in the face of threat and discomfort. Old schemas and emotional memories of being helpless as a child are triggered and prevent an active approach to pain management."
>
> "There is a tendency to experience emotional stress as somatic illness or physical pain."
>
> "Major issues would be her sense of helplessness to deal with physical and emotional pain. Likely schemas would include vulnerability to harm/illness, emotional deprivation, guilt/punishment and abandonment/loss."
>
> "There is a pre-morbid personality pattern and signs of hypochondriasis, hysteria and depression - also psychotic-like reactions."

Condition 2 - Meaning Assessment Information

Themes.

1. The major issue identified is that pain has purpose in Doris' life. Her pain is useful. Doris' pain serves the function of keeping her relationship intact even though it is dysfunctional. It also allows her to avoid returning to a problematic job situation and encourages self-exploration.

> "The major issue is the effect of pain upon Doris - especially the positive effects and how the challenge of pain is being used constructively in her life."
>
> "I believe her pain may very well have become an opportunity to remove herself from an unpleasant circumstance as in her own words she described it as being a blessing in disguise."
>
> "Pain currently serves a dual function. Pain keeps her from going back to work while at the same time keeping spouse."
>
> "Pain gets her out of a job situation in which she obviously felt abused."
>
> "The pain means she has to look at herself and how she handles things and that she has to look at her dependence and relationship issues."
>
> "Pain has allowed time for her to reflect on her values and needs."
>
> "Her pain issues, in a sense, provided an opportunity to take some time and cut through the "workaholic" defense to reveal current personal and interpersonal problems."

2. Doris is unable to clearly communicate her needs and feelings to important people in her life. Her pain has become a means of communicating problems in her marriage and job.

> "I see the main issue as client's inability to be assertive and make positive choices for herself."

"In her relationship, pain is a way of expressing her need to be taken care of."

"Pain has the function of expressing anger to her employer."

3. Low self-esteem and feelings of inadequacy are presented by the client.

"Client brings a sense of inadequacy and dependency and an inability to make a concerted effort in commitment."

"I see client as lacking decisiveness, self-esteem and an internal sense of motivation."

"It is time for her to become her own person."

Condition 3 - Psychometric and Meaning Assessment Information

Themes.

1. Doris' pain plays an important and functional role in her life. Her pain provides her with the opportunity for self-growth and self-exploration. Doris is getting to know herself through her pain.

"The pain has a legitimizing presence."

"The major problem for Doris is the need for personal growth. This has very little to do with the actual "physical" pain, but everything to do with the emotional aspects of her symptoms. Her pain has a purpose of allowing her to know herself, to determine what she needs in her work and her marriage."

"Doris' pain is primarily providing the means and justification for conducting some long overdue personal housekeeping. So long as the pain persists, she has the "space" to explore her feelings."

2. Doris uses her pain to avoid dealing with her "real problems." The major issues in her life relate to her relationship and her job.

"Client may be out of control with her affect and presents issues in her life (work, marriage) about which she is angry. The pain is a 'red herring'."

"She was very honest in revealing that the primary issues in her life relate to her current questionable relationship, her uncertainty regarding her commitment and finally, her clear dissatisfaction with her previous job."

"She seems to be very unhappy in her pre-accident occupation and she is questioning whether or not to stay in the relationship she is currently in."

3. Doris feels inadequate, powerless and out of control regarding her personal and physical issues. She is dissatisfied with the current state of her life.

"The client feels powerless, useless, impotent and afraid of the future. She has no control over her physical problem."

"I suspect the client is a "victim" in her life and people don't listen to her feelings."

"The major issue seems to be the client's dissatisfaction with herself and what's going on in her life."

"Major issue; her general dissatisfaction and depression about her physical and emotional state and inability to change."

Comments

Based upon the themes described, one can conclude that differences do exist in participants identification of the major issue depending upon the assessment information provided. In Condition 1, where assessment information included the Client Information Report and Psychometric Assessment Report, one main issue was identified. This theme focused on Doris' history of poor health and, emotional and physical abuse. It also

included diagnosis of long standing personality problems and even psychological pathology. The existence of problems in Doris' job, relationships and ability to cope with injury were attributed to her troubled past.

Major issues identified by subjects in Conditions 2 and 3 reflected similar themes. In Condition 2, assessment information included the Client Information Report and the Audiotaped Interview (Meaning Assessment). Whereas, in Condition 3, participants had access to the Client Information Report, Psychometric Assessment Report and Audiotaped Interview. Two themes were shared in common between Condition 2 and 3. The first identified Doris' pain as functional and having purpose in her life. It was suggested that the pain functioned to keep her relationship intact, to allow her to avoid returning to a difficult job situation and to encourage self exploration and self growth. The positive role that pain played in Doris' life was not mentioned at all in Condition 1. The second common theme shared by Condition 2 and Condition 3 described Doris' feelings of inadequacy, low self-esteem and lack of control over her physical and emotional symptoms. The theme of Doris' difficulty with assertive communication was only apparent in Condition 2, and suggested that pain had become a way for Doris to communicate with others and have her needs met. This particular theme is similar to the theme of pain being functional given the role that pain apparently played in communication.

In Condition 3, another theme emerged clearly that was only intimated in the responses of participants in Condition 2 and, not apparent at all in

Condition 1. This theme stated that the real issues presented by Doris were related to current difficulties in her job and marriage. The pain was described as a "smoke screen" or "red herring" that masked her real problems. This theme also relates to the theme of Doris' pain having purpose.

It is interesting to note that in none of the conditions was the pain itself identified as the major issue presented by the client. This suggests that regardless of the type of assessment information available, there was an appreciation for the complexity of Doris' experience of chronic pain and an awareness that her pain was more than simply sensory in nature.

A comparison of these identified themes is also presented in Table 2.

Most Useful Aspect of Assessment Information

Participants were asked to respond to the question: "Describe what aspect of the assessment information was most useful or important in identifying this issue."

Condition 1 - Psychometric Assessment Information

Themes.

1. The personal and family background which describes Doris' history of illness and abuse was helpful in identifying Doris' current problems.

> "Personal and family history indicate a replay of many childhood issues through present distress."

> "Perhaps the most useful, as is frequently the case, is the information obtained in the clinical interview, especially as reflects this client's home during her "formative" years."

2. Data from psychometric instruments was valuable in identifying issues. The most useful information was extracted from the MMPI, SCL-90-R, and MPQ. Results from these instruments confirm Doris' affective problems, unresolved trauma and inappropriate responses to her physical condition.

> "The more formal assessment instruments were most useful from my point of view - the MMPI suggests a tendency toward somatization of psychological concerns; The McGill Pain Questionnaire which identifies a strong affective component in the pain perception/description; the Symptom Checklist 90 which identified underlying feelings of hostility and unusual thinking"

> "MPQ results suggest strong emotional ties with the pain. SCL/90 results suggest considerable frustration and unresolved feelings regarding occurrence of trauma."

> "Most useful parts of assessment:
> - high emotional scores on MPQ.
> - high hypochondriasis, hysteria and depression scores on MMPI.
> - high hostility and psychotisism scores on SCL-90."

Condition 2 - Meaning Assessment Information

Themes.

1. The most important aspect of the assessment information was Doris' perspective as identified in the audiotaped interview. It was helpful to hear Doris describe the role of pain in her life.

> "I found the taped interview quite useful, especially the client's attribution to what the pain means to her and how it has impacted her life."

> "It is less the information in social history and gathered by "clinician questions" that is of relevance than it is what the client focuses on in the discussion."

> "The taped interview with the client's physical description of pain and description of the meaning/function of pain."

Condition 3 - Psychometric and Meaning Assessment Information

Themes.

1. The most important aspect of the assessment information is the audiotaped interview on which Doris describes what pain means to her.

> "I felt her verbal description and explanation of her life provided me with a picture of what was going on with her."
>
> "Doris described her pain eloquently in clear emotional terms. The interview was the best part of the information provided. Our clinical instruments do not tap emotional issues nearly as effectively as the interview. Doris revealed much in the interview."
>
> "The interview really emphasized for me the important role that pain plays in Doris' life. It also highlighted Doris' intelligence, insight and willingness to explore various psychological interventions."
>
> "Assessment information most important to me was the taped audio interview in which she talked about her work relations and her relations at home plus the role and changes caused by her pain."

Comments

As would be expected, the type of assessment information provided influenced which aspects of the assessment information were considered most useful in identifying major issues presented by the client. Naturally, participants were only able to use information that was available to them. Those in Condition 3 had access to all the assessment information (Psychometric and Meaning), with participants in Condition 1 having access to only Psychometric assessment information and those in Condition 2 having access to only Meaning assessment information. Again, it is important to note that subjects in all conditions has access to the Client Information Report.

Despite these obvious differences, it is interesting to comment on specific aspects of the assessment information that were found useful in identifying issues. In Condition 1, a common theme emphasized information presented in the Client Information Report - specifically that which detailed Doris' history of illness and abuse. A second theme stressed the importance of particular psychometric tests completed by Doris. The MMPI, SCL-90-R and MPQ were identified as being the most important, especially in their confirmation of Doris' emotional problems and abnormal reactions to her current circumstances, allegedly stemming from her past.

In Condition 2, the audiotaped interview which allowed participants to listen to Doris' own perspective on her current situation, was consistently identified as the most valuable aspect of the assessment information. This theme also emerged strongly in Condition 3. Again, of interest is the similarity between Conditions 2 and 3, not only in the emphasis placed upon Doris' perspective regarding the meaning of her pain (as identified on the audiotape) but also in the lack of emphasis upon her history of abuse and illness. All conditions has access to the Client Information Report and yet, only in Condition 1 was this history of abuse and illness considered significant in the identification of presenting issues. It seems that in Conditions 2 and 3, information presented on the Audiotaped interview was more influential than other assessment information. This would account, in part, for the similarly of specific issues identified in Conditions 2 and 3 noted in the last section. It is

particularly interesting that in Condition 3, where participants were able to review all assessment information, they consistently felt most influenced by the client's perspective as identified on the audiotape. In Condition 1, where participants did not have access to the Audiotaped information, they had to rely more on written assessment material. As a result, the understanding of Doris' issues tended to be more illness and pathology focused.

A comparison of these identified themes is also presented in Table 3.

Recommended Intervention

Participants were asked to respond to the question: "Describe specifically what type of intervention(s) you would use or recommend for the client in question."

Condition 1 - Psychometric Assessment Information

Themes.

1. Doris would benefit first from a multidimensional approach directed at the alleviation of pain and control of physical symptoms. Recommended strategies include autogenic training, hypnosis, progressive muscular relaxation, and cognitive behavioral approaches. The goal is for Doris to become more functional in both a physical and emotional sense.

> "I would use a pain-management centred approach using relaxation and cognitive behavioral methods to treat her presenting complaints. While there are clearly some personality based concerns, I would not approach these first as to do so would likely increase defensiveness on the client's part."

"I would deal with current issues and focus on pain and increasing independence prior to addressing issues stemming from the past (e.g., physical and psychological abuse)."

"Provide training and assign between session tasks in Relaxation, Stress Management, appropriate physical exercise, pain management - would be commenced early on a gradual basis."

2. Following pain management and ego strengthening, a psychotherapeutic approach should be introduced which focuses on the resolution of past trauma.

"I would then encourage hypnosis as a dissociative technique - using "Affective Bridge" for exploring and dealing with feelings (i.e., past trauma)."

"Schema focused therapy follows pain management for the purpose of identifying, emotionally experiencing, and modifying maladaptive sets of beliefs and assumptions. Old emotional memories of being helpless in the face of physical and emotional pain as a child need to be countered."

"Then, psychotherapy - focusing on the resolution of long standing problems - that is sickness, abuse, neglect."

3. Vocational and relationship issues are secondary and may become the focus of treatment once Doris has gained more confidence and control over her pain, and has dealt with family of origin issues.

"Following treatment of pain, self-efficacy and historical issues - referral for marital, vocational, Family or Group counselling would be evaluated and made as necessary."
"Counselling for marriage and job satisfaction may be provided, if still required."

Condition 2 - Meaning Assessment Information

Themes.

1. Doris requires a multidimensional approach to counselling that will address several issues other than just pain proper. Primary targets of intervention include relationship, vocational problems and emotional issues.

> "I think it would be a mistake to assume a single issue approach. To help the client resolve the helplessness at work/with spouse/or deal with anger would each be insufficient. She is at the point where physical/psychological/systemic approaches must be offered as a package."

> "The type of intervention I would use would be a multidimensional approach. I see people, problems and solutions within a multidimensional context where no one therapy can address all levels of human problems. However, self-esteem issues, marital/family concerns, and vocational direction would take precedent."

> "To deal with the stresses in her present life, which may very well exacerbate her pain, she needs to look at her own unresolved issues around her present marital/family situation, and sense of self-esteem."

2. A counselling approach that focuses on improving Doris' communication skills is indicated. Doris must learn to be assertive and to express her needs to others without using her pain.

> "Main intervention would be assertiveness training with focus on learning to express and look after her own needs."

> "I would work with her in a way that incorporated assertiveness training that allows her to role play with congruent body awareness and statements that support what she wants."

> "She needs to learn that she can care for herself, and receive praise and support in circumstances other than those of illness or pain. She obviously needs to learn a new manner, perhaps through assertiveness training, to express her unhappiness.

3. Doris would benefit from therapy directed at increasing her insight and understanding regarding her own pain. The therapist should make an effort to reframe the role of pain within her life.

> "Cognitive-behavioral for learning to understand the nature of pain and how her thinking can increase or decrease the experience."
>
> "I would spend time cognitively re-framing the "cure" aspects of the client's wants to a more realistic perception of learning to live with and get on with her life in spite of PAIN."
>
> "Cognitive exploration of the function of pain - possibly with hypnosis to seek alternative methods of enabling as an antidote for helplessness."
>
> "Hypnosis/visual imagery - to assist the client gain increased insight into the function of pain in her life and how this can be used to help her overcome the pain."

Condition 3 - Psychometric and Meaning Assessment Information

Themes.

1. Doris should be trained in pain management, symptom relief and relaxation strategies to increase control, to reduce pain as a problem and clear the way for her to confront her personal issues.

> "Relaxation therapy to help her gain control in her status of pain. It seems that Doris is attributing her present state and problems to pain such that PAIN must be alleviated in her mind before she can deal with other issues."
>
> "I would introduce hypnosis and imagery as part of pain control. The goal would be to distract from pain and increase feelings of control and self-efficacy."
>
> "Biofeedback, relaxation and other behaviorally based treatments would be initiated to help pave way for getting on with "living" or self-exploration."

> "Doris needs to learn that she can let go of her pain and deal with the major personal issues in her life."

2. Intervention should be multidimensional in nature and focused on treatment of Doris' "real problems." These include difficulties in her relationship, her job and in her feelings about herself.

> "Multidimensional counselling aimed at helping her to realize that she can continue her personal growth without the help and justification of pain would be implemented."

> "Vocational counselling to help her explore her options and make a conscious choice about what she wants to be doing vocationally. Relationship/Existential counselling. What does she want in life - get her head sorted out - deal with insecurity, co-dependence issues. Sounds like she's in a dead-end relationship."

> "Affective management and cognitive/behavioral therapies can be employed to help her assess and understand her own emotional state. Advisable to explore vocational alternatives following counselling with family to help family members understand Doris' emotional needs."

Comments

A number of similarities and differences are apparent among the conditions in the interventions recommended. In all three conditions the theme of multidimensional intervention was evident. The focus of this multidimensional approach was quite different however. In Condition 1, the intervention was directed toward the alleviation of pain symptoms. Whereas, in both Conditions 2 and 3, multidimensional intervention was recommended to address issues other than pain. These included difficulties in Doris' relationships, job, and affective state.

In both Conditions 1 and 3, a common theme recommended that Doris should first be educated in pain management and symptom relief strategies before attention was focused on her "real problems." Those issues that were considered to be the real problems, however, differed depending upon the condition. In Condition 1, as already mentioned, the issues to which therapy would then be directed revolved around unresolved feelings regarding past trauma. Whereas, in Condition 3, Doris' main issues were considered to be difficulties in her relationship, job and feelings about herself.

Relationship, job and self esteem issues were also identified as major areas for intervention in Condition 2. However, pain management was not deemed necessary to prepare the client to confront these issues.

It is interesting that vocational and relationship problems were considered to be only secondary in Condition 1 and simply present day manifestations of a traumatic history. Related intervention was recommended following pain management and working through of past trauma, and only then if necessary. The suggestion is that relationship and job issues would resolve themselves if other problems were addressed.

Unique to Condition 2 was a recommendation for assertiveness training, again to reduce the function of pain as a means of communication. That is, this theme suggested that if Doris could learn to communicate effectively, she would no longer require pain in order to get her needs met. Inherent is the implication that her pain would not cease to be a problem until the reasons for its existence

were dealt with. While not explicitly stated, this position is also apparent in the Condition 1 and 3 themes. That is, deal with the real problems directly so that the client no longer needs her pain in order to deal with them. In a similar vein, it was also recommended in Condition 2 that Doris be involved in counselling that would increase her insight regarding pain and help her reframe its function within her life.

A comparison of these identifed themes is also presented in Table 4.

Additional Findings

Two additional themes emerged in written feedback from respondents that were not directly related to the three questions asked. These themes are described because they were noted frequently in participant responses.

1. Participants in all three conditions commented on the absence of "multidisciplinary intervention" as a treatment choice on dependent measures A (rank orders) and B (likert scales). Participants noted that a unidimensional approach to intervention is seldom effective in the treatment of a disorder as complex as chronic pain. Therefore, being asked to rank or rate treatments was difficult in that the preference for many participants would be to undertake a variety of treatments in combination.

> "I have used the choice 'very likely' often because a multidisciplinary approach would feature many/most of these treatment modalities. The use of one can only enhance the effectiveness of the others".

> "I use multidimensional approach which combines many of these strategies. Why is this not a choice when it is the most accepted approach to treatment of chronic pain?"

It is interesting that this orientation toward multidisciplinary intervention was also reflected in written responses to the qualitative question "describe specifically what type of intervention(s) you would use or recommend for the client in question and why." As mentioned, in all three conditions, a multidisciplinary approach was recommended.

2. Participants in Conditions 2 and 3 requested a copy of, or more information regarding, the interview questions asked of Doris on the audiotape.

> "I had to listen to the audiotape twice since I was trying to write down your questions for my own use. Could I please have a copy of questions you asked Doris?"
>
> "Who was the psychologist interviewing? She has a beautiful voice and style of questioning. She obviously 'clicked' well with Doris. Could I have a copy of her questions?"

Some participants also telephoned the Psychology Department of the WCB and requested either a transcript of the interview or a copy of the questions asked. This finding is interesting for two reasons. First, it suggests that psychologists value information provided via these questions and want to incorporate this type of enquiry in their own assessment of chronic pain clients. Second, it suggests that psychologists are unfamiliar with this type of enquiry which accesses meaning information, supporting the researcher's belief that this is not a routine part of the assessment process.

Summary of Results

The results of the descriptive and quantitative data analysis indicated that the type of assessment information made available to the psychologists did influence the way in which they viewed the client's issues and the recommendations they made for therapeutic intervention. Both analyses revealed a similarity between Conditions 2 and 3, and a difference between these two conditions and Condition 1 in the identification of client issues and the therapeutic recommendations made.

Descriptive analysis of qualitative data indicated that in Conditions 2 and 3, where participants had access to an audiotaped interview of Doris answering questions related to the meaning of pain in her life, there was a similarity in understanding of the client's problem and recommendations made for treatment. Doris' pain was viewed as functional in communicating her needs, explaining her feelings, and allowing her to avoid dealing with problems in her marriage and job. Participants in both Conditions 2 and 3 consistently acknowledged that Doris' perspective as conveyed in the audiotaped interview, had been the most influencial aspect of assessment information. While not identical, recommended interventions in these two conditions were also similar in that they focused on addressing issues related to the client's relationship, her vocational choice and satisfaction, her self-esteem, and her communication skills. It was suggested that if Doris could resolve these issues, her pain would

no longer be necessary. Doris seemed to be viewed as an unhappy yet resourceful woman who was doing her best to cope with a difficult situation.

In Condition 1, where participants were provided with the quantitative data (psychometric assessment results) and did not have access to the audiotaped interview, their attributions regarding Doris' pain tended to be more focused on pathology. That is, pain was understood as a somatic representation of past trauma, abuse, and illness, which it was suggested, constituted the real issues faced by the client. Doris was understood as a distressed woman who had some significant psychological problems as a result of her past. Treatment recommendations focused on pain relief, and resolution of trauma via psychotherapeutic intervention. Vocational and relationship issues were considered only secondary.

The similarity between Conditions 2 and 3 and their difference from Condition 1 was also supported by the results of quantitative analysis. While only a few significant group differences were found, those that occurred on both rank order and likert scale data indicated that Conditions 2 and 3 were not significantly different from one another, but both were significantly different from Condition 1.

Specifically, stress management was more strongly endorsed by participants in Condition 1, on both the rank order and likert scale measures, than by those in Conditions 2 and 3. Relaxation training, however, was more highly ranked by subjects in Conditions 2 and 3 than those in Condition 1. The

reasons for these differences are open to interpretation. The fact that stress management was ranked and rated higher by Condition 1 subjects may be interpreted as support for the descriptive theme, also identified by Condition 1 subjects, that Doris was experiencing stress resulting from past trauma. That is, stress management is endorsed as a means of treating her distress. Similarly, it could be argued that a significantly higher ranking of relaxation training by Condition 2 and 3 subjects was supportive of the descriptive themes identified by these same subjects that tend to be less pathology focused than those identified by Condition 1 subjects. Relaxation training is generally thought of as a psychoeducational intervention that is recommended for clients who have less serious presenting issues.

Such speculation, however, leads one to question the absence of group differences for other treatments. For example, when considering the strong recommendations for marital and vocational counselling evident in the descriptive themes for both Conditions 2 and 3, one would have expected that these interventions would have been more highly ranked on rank orders and more positively rated on likert scales than in Condition 1. However, no significant differences between conditions were found for these treatments.

It is important to comment, again, that on treatments where the mean rank analysis of variance statistics approached significance (hypnosis, behavioural therapy, and cognitive behavioural therapy), Condition 2 and 3 were more similar to one another and different from the mean ranks for Condition 1.

This finding lends further support to a general similarity between the responses of participants in Conditions 2 and 3 and their difference from the responses of Condition 1 participants.

The lack of statistically significant differences identified through quantitative analysis may have been the result of the small sample size. That is, there may have been differences among conditions, but they were not apparent because the number of participants in each condition was too small. The general absence of group differences on rank order and likert scale measures and the similarity in ranking of treatment choices reflected in the correlational analysis may also have been the result of a familiarity among participants with the types of treatments typically used in chronic pain treatment as well as a tendency to recommend a multidimensional approach. That is, as identified in the descriptive analysis, participants may have highly endorsed several common treatment strategies on rank order and likert scale measures in order to reflect a multidimensional approach. However, the differing rationale for recommending these strategies only became evident when participants were given the opportunity to describe, in writing, the interventions they would recommend, and why.

CHAPTER V

CONCLUSION

Introduction

The question which guided the present research was; what, if any, difference in treatment recommendations for clients with chronic pain would occur depending upon the assessment information available to the psychologist making the recommendation? Of specific interest was the influence that an awareness of the personal meaning of a client's pain had upon a clinician's understanding of the pain and choice of therapeutic intervention for that client. This topic of inquiry was judged important given the absence of consideration regarding the meaning of pain in the pain assessment literature. Because of the complexity of chronic pain, it was suggested that only with knowledge of all aspects of the pain experience; sensory, affective, cognitive, behavioural, and meaning, could the clinician make an informed assessment and choice regarding type of intervention. Further, it was suggested that without a specific awareness of meaning information, the clinician may in fact recommend and/or use particular therapeutic strategies that are potentially incomplete because an aspect of the client's pain experience had not been taken into account.

The investigation of this research question yielded a number of findings that are worthy of comment and further consideration. In this chapter, the outcomes of this study will be reviewed and interpreted. Conclusions based upon the research findings will be advanced, the researcher's presuppositions

will be re-examined, implications will be presented and, finally, recommendations will be made for future research on this topic.

Discussion

In reviewing the results of both quantitative and descriptive data analysis, it is apparent that some general similarities exist across all conditions in the attributions and recommendations made regarding the client. That is, there was agreement among psychologists on some aspects regardless of the assessment information available to them.

Participants in all conditions viewed the client's pain as complex in nature. Whether pain was considered to be a somatic representation of previous trauma as in Condition 1, or a vehicle for getting important needs met, as in Conditions 2 and 3, its complexity beyond just a sensory experience was acknowledged. This common understanding was supported by the finding that in none of the conditions was pain proper identified as the major issue presented by the client. Further evidence for an appreciation of the complexity of chronic pain was noted in the treatment recommendations. A multidimensional approach was advocated by participants in all three conditions.

It was also apparent that some types of treatment were considered more appropriate and others less appropriate for the client in question, regardless of the assessment information reviewed. Therapeutic approaches including relaxation training, cognitive-behavioural therapy, vocational counselling and

marital counselling were highly endorsed or frequently recommended by participants in all conditions. Whereas, substance use/abuse counselling, sexual therapy, pastoral/spiritual counselling, strategic-pragmatic therapy, and supportive group therapy received low endorsement across conditions as the intervention of choice for the client. Correlational analysis also supported an agreement among and between conditions in the ranking of treatment choices. The general similarity in treatment recommendations may be reflective of agreement regarding the client's circumstances, and the types of intervention that would be most appropriate. The similarity observed may also have been a function of familiarity on the part of participants regarding strategies most commonly recommended in the treatment of chronic pain, especially given that all participants had worked extensively with clients who had chronic pain. The latter explanation seems most probable given that descriptive analysis revealed a differential understanding of the client's circumstances and differing rationale for the application of similar therapeutic interventions (i.e., pain management strategies).

There were, also, many ways in which participants in the three conditions differed on dependent measures. The results of both quantitative and descriptive analysis revealed that participants who reviewed only psychometric assessment data (Condition 1), and those who reviewed only the meaning information presented on the audiotape (Condition 2), differed in both their clinical impressions regarding the client's pain and their recommendations for

treatment. This suggested that, despite the fact that participants in these two conditions reviewed assessment data from the same individual, those who had access to psychometric assessment data only, came to different conclusions regarding the client than those who had access to meaning information only (audiotape). This finding supports the researcher's expectation that an awareness of the meaning a client assigns to their experience of chronic pain results in a quantitatively and qualitatively different understanding of and treatment recommendation for the client than the results of psychometric evaluation.

A somewhat surprising finding was the similarity in responses between participants who had access to meaning information alone (Condition 2), and those who had access to both meaning and psychometric information (Condition 3). Participants in these two conditions viewed the client's pain in a similar fashion, and made similar recommendations for treatment. The researcher expected that responses from participants in Condition 3 would have reflected some combination of perspectives apparent in Conditions 1 and 2, given that Condition 3 subjects reviewed both meaning and psychometric assessment information. Instead, the responses of Condition 3 participants, on both quantitative and descriptive measures, were very similar to those of participants in Condition 2, and not at all similar to those of Condition 1 participants. This finding leads one to question the relative contribution of psychometric and meaning information. The data suggest that meaning

information from the audiotaped interview took precedence over the results of psychometric evaluation in determining the clinical impressions and recommendations of Condition 3 participants. This interpretation is supported not only by the similarity in responses between Condition 2 and 3 participants, but also by the identification, by Condition 3 participants, of the audiotaped interview as the most important aspect of the assessment information in the determination of client issues.

It is difficult, however, to accept that psychometric assessment information was ignored altogether by Condition 3 participants. Rather, it may be that meaning information was given more weight in the formulation of a clinical impression, and that psychometric assessment data was then understood within the context of that impression.

Similarly, the notion of contextualization can be helpful in understanding why the responses of Condition 1 participants were so different than those of participants in Conditions 2 and 3. That is, given that respondents in Condition 1 did not have access to meaning information, they may have looked toward other sources of information to contextualize psychometric data. Their responses suggest that information provided in the Client Information Report, specifically that which detailed the client's history of illness and childhood abuse, provided the context within which psychometric data was interpreted. As a result, the client's pain was seen as a manifestation of previous trauma and representative of pathology. Consequent treatment recommendations were

focused not so much upon current circumstances, but rather upon the resolution of difficulties from her past. It is quite as if, in the absence of meaning information, the psychologists came to conclusions regarding the meaning of the client's pain based upon historical information. The results of the psychometric evaluation were then understood within this framework. This interpretation is supported, but the fact that participants in Condition 3, who had access to all assessment data and the Client Information Report, did not attribute the same meaning and importance to the client's troubled past. Rather, the meaning of the client's pain was determined from the audiotaped interview. One could conclude then, that when assessing a client with chronic pain, psychologists seek to determine the meaning of the client's pain. When this information is not readily available or explicitly provided, they infer it from other sources. It is noteworthy, that the researcher did not anticipate the contribution of the Client Information Report in providing meaning information to Condition 1 participants.

Just as it is important to evaluate the relative contributions of the Client Information Report and psychometric assessment data, it is equally important to consider the influence of listening to the audiotaped interview. That is, what aspects of the interview determined the way in which pain was understood, the identification of client issues, and the recommendations made? Information regarding the meaning of the client's pain, as revealed in her answers to interview questions, was clearly reflected in the identification of client issues and

recommendations made by Condition 2 and 3 participants. Those participants who listened to the audiotape became aware of the way in which the client's pain had become functional in communicating her needs, getting her needs met, and avoiding difficulties in her marriage and job. As a result, intervention was focused on dealing directly with problems in the client's marriage, work, feelings about herself, and ability to communicate her feelings and needs, such that pain would no longer be necessary to fulfil these functions.

The audiotape may have also provided other valuable information which influenced the clinical impressions and recommendations made by psychologists in Conditions 2 and 3. That is, the client's responses to the interview questions may have given more than just an indication of the meaning dimension. She likely also reflected information regarding the cognitive, emotional, behavioural, and sensory aspects of her pain. Therefore, it is possible that those participants who listened to the audiotaped interview had at least limited access to all dimensions of the client's pain experience, even in the absence of specific psychometric information (e.g., Condition 2).

Finally, the importance of actually hearing the client's voice on the audiotape cannot be ignored. It is likely that the audiotape made the assessment process more realistic for psychologists in Conditions 2 and 3. In addition, the quality and intensity of the client's speech, along with the tone and volume of her voice as she answered the questions, likely provided additional meaning information beyond the content of her responses. It could be argued

that these aspects of the client's presentation were most influential in assessing her pain. That is, hearing her speak was more important than what she actually said. If this were true, then one would expect that if participants in Condition 1 had had the opportunity to hear the client speak, regardless of what she said, they would have come to similar conclusions as those participants in Conditions 2 and 3. Similarly, if subjects in Conditions 2 and 3 had only read a transcript of the client's responses to qualitative questions, they would have come to similar conclusions as subjects in Condition 1. Both of these possibilities seem unlikely. Rather, it seems more plausible that the meaning of the client's pain was reflected in both the content of her responses, and the quality of her speech. The relative contribution of each of these components cannot be determined based upon the findings of this study. This question suggests possibilities for future research.

In summary, the interpretation of findings from the present investigation leads to the following general conclusions:

1. The type of assessment information made available to the participants did differentially determine their understanding of the client in question, and the recommendations made for intervention.

2. Meaning assessment information presented on the audiotape took precedence over and provided the context for interpreting other client information (Client Information Report, psychometric assessment data).

3. The meaning of a client's pain was important in the assessment process. When meaning information was not explicitly presented, psychologists extrapolated it from other sources (Client Information Report).

4. Psychometric information was interpreted within the context of meaning information, regardless of whether the meaning information was explicitly provided or derived from other sources.

Examination of the Researcher's Presuppositions

A review of the researcher's presuppositions and working assumptions (described in Chapter 1), relative to research outcomes, revealed both consistencies and inconsistencies. The first presupposition stated that assessment of meaning information was not a standard part of the evaluation process undertaken by psychologists. The fact that many participants asked for a copy of the meaning questions suggested that psychologists may not have known what questions to ask or what process to use in evaluating the meaning dimension of pain. They did, however, draw conclusions regarding the meaning of the client's pain. When meaning information was made available to the psychologists, it was influential in determining therapeutic recommendations, and also was used to contextualize other assessment information. When meaning information was not provided, psychologists made assumptions about the meaning of pain based upon other information. This assumed meaning also provided the context within which psychometric assessment information was interpreted. While it may be true that the

assessment of meaning is not acknowledged as a standard aspect of chronic pain evaluation, the findings of this investigation suggested that psychologists value meaning information and seek it out in the assessment process. This may be less a function of their formal training as psychologists and more a reflection of their own personal awareness that pain is meaningful. This seems a plausible interpretation especially given that the pain assessment literature generally does not encourage clinicians to consider the meaning dimension in the evaluative process and the formulation of treatment recommendations.

The results of the present investigation provided support for the second presupposition, that a review of psychometric assessment information only (Condition 1) would result in a qualitatively and quantitatively different understanding of, and recommendations for, the client with chronic pain, than a review of meaning information only (Condition 2). The descriptive analysis, in particular, revealed a clear difference between these two conditions that was supported by the relatively weaker results of quantitative analysis of rank order and likert scale data.

The third presuppositions suggested that psychologists who reviewed both psychometric and meaning assessment information (Condition 3) would have a different understanding of the client, and would make different recommendations as reflected in both qualitative and quantitative data analysis, than psychologists who reviewed each type of assessment information independently. The results, however, were unexpected. They indicated that

when psychologists reviewed all assessment information, their understanding of the client, and the recommendations made for intervention were, in fact, very similar to those of participants who only reviewed meaning assessment information and different from those who reviewed only psychometric information.

It is important to comment again, that the researcher did not anticipate the influence of the Client Information Report. It was expected that the Client Information Report would provide a historical perspective to participants across conditions that would standardize, and perhaps even equalize, their understanding of the client before reviewing assessment data. Instead, the content provided in this report became part of the assessment information that was differentially interpreted depending upon the availability of meaning information.

In addition, the researcher did not predict the importance of meaning information in influencing the psychologist's understanding of the pain client, and in determining therapeutic recommendations. Rather, it was expected that meaning information would be of equal importance to an awareness of sensory, affective, cognitive, and behavioural dimensions of the pain experience. The research outcomes suggested that meaning information was of such importance that even when it was not explicitly provided, psychologists interpreted meaning from other information. More importantly, psychologists'

understanding of the meaning the client assigned to her pain provided the context within which other assessment information was interpreted.

Implications for Assessment of Clients

The findings of the present research cannot be generalized to all psychologists assessing all clients with chronic pain. The conclusions are largely based upon the results of the descriptive analysis of qualitative data, and are only generally supported by the results of quantitative data analysis. Hence, it is not possible to extend any causal relationship between the type of assessment information reviewed by psychologists and the recommendations they made. It is, however, possible to forward the following general implications for the assessment of clients with chronic pain based upon the findings of this investigation.

1. Hearing a client discuss their experience of being in pain, and the personal significance they assign to pain, is more influential in determining the psychologist's understanding of a client and consequent recommendations for treatment, than is historical information or the results of psychometric evaluation. Further, hearing a client discuss their experience of being in pain affects the psychologist's interpretation of historical information, and the results of psychometric evaluation. This suggests that interaction with the client is an important and influential aspect of the assessment process, and that chronic pain assessment should include some indication of the client's perspective regarding their experience of pain.

2. In assessing chronic pain, psychologists attempt to understand the meaning of the client's pain. In the absence of specific meaning information from the client, the psychologist may make assumptions regarding the meaning of their pain based upon other sources of information. These assumptions may not be representative of the client's perspective, and may consequently lead to treatment recommendations that are not responsive to the client's needs. Therefore, when assessing clients with chronic pain, it is important not to make assumptions about how pain is meaningful, but rather to specifically ask clients to reflect upon the meaning they ascribe to their experience of pain. The findings of this study also suggest that while psychologists seem to value meaning information, they may not know how to get it. Psychologists who assess and treat chronic pain would, therefore, benefit from exposure to the questions and process used in the present study to assess the meaning dimension of chronic pain.

Future Research

The results of the present investigation provided convincing evidence that psychologists value meaning information in the assessment of clients with chronic pain. Their understanding of the meaning dimension contributed significantly to the identification of client issues, and to the recommendations made for intervention. The research findings, however, lead to the consideration of new research questions that need to be addressed on this

topic of enquiry. Some outstanding questions and consequent possibilities for future investigation are as follows:

1. What aspect(s) of listening to the audiotaped interview was influential in determining the research outcomes? Was it only the meaning information conveyed? Was it the opportunity to hear the client speak and experience her as a real person? Was information conveyed on the audiotape other than, or in addition to, the meaning information? While the client's answers to questions regarding the meaning of her pain were clearly influential, it is not possible to conclude that it was the meaning information alone which determined the demonstrated impact of listening to the audiotape. There are some possible changes in the research design that could provide clarification. The client's answers to meaning questions could be transcribed and presented to participants in written form instead of on audiotape to rule out the potential influence of hearing the client speak. It could be argued, however, that this would make the investigation even less realistic, given that few psychologists would assess their clients and make recommendations for treatment based upon a documentary review alone. A superior alternative would be to audiotape, or perhaps even videotape the client answering questions regarding his/her personal history and present circumstances as in the Client Information Report. All participants could then be given the opportunity to hear and/or see the client, thus making the assessment process more realistic. Answers to meaning questions could be transcribed into written form to be reviewed only

by participants in Conditions 2 and 3. This design would allow for examination of the differential influence of access to meaning information separate from the effects of hearing and/or seeing the client. That is, if an awareness of the meaning a client ascribes to their pain influences the psychologist's clinical impressions and recommendations, then the same trends and themes as were found in the present research would also be apparent even with proposed changes in design.

2. What was the relative contribution of psychometric information in determining clinical impressions and treatment recommendations when psychologists had the opportunity to hear the client answer meaning questions on audiotape, and to review historical information? Was the psychometric information contextualized by meaning information as the researcher concluded, or was it ignored altogether? In the present study, participants were asked to indicate what aspect of the assessment information was most important in the identification of client issues. Future research could ask participants to rate the contribution of historical, psychometric, and meaning assessment information. Additionally, participants could be asked to describe how each type of information influenced their clinical impressions. These changes would perhaps provide a better indication of the relative contribution of psychometric information when participants also have access to meaning and historical information.

3. Would the trend for participants in Condition 2 and 3 to respond in a similar fashion on likert scale and rank order measures have been maintained if the sample size were larger? It would certainly be interesting to repeat the investigation with a larger sample size, to determine if any other statistically significant differences between groups were apparent, and to determine if those participants who listened only to the audiotape would continue to make similar recommendations on quantitative dependent measures, as those participants who listened to the audiotape and reviewed psychometric data.

Concluding Comments

The present study highlighted the importance of including in the assessment process an evaluation of the client's perspective and of the meaning they assign to their pain. The results indicated that psychologists valued meaning information and, that their understanding of meaning was influential in contextualizing other assessment information and in formulating recommendations. While it may be true that assessment of the meaning dimension is not typically recommended or included in standard protocols for chronic pain evaluation, psychologists in this study did attempt to understand the significance of the client's pain, even in the absence of meaning information. Although their process for assessing meaning may be informal, underdeveloped, or perhaps intuitive, the results of this investigation suggest that psychologists have a basic appreciation for the simple truth, long

acknowledged by philosophers, theologians, poets, scholars and chronic pain suffers, that pain is meaningful.

Table 1

Means, Standard Deviations, and Analysis of Variance of Rank Orders for Conditions by Treatment Type

Treatment	Condition 1		Condition 2		Condition 3		F
	Mean	S.D.	Mean	S.D.	Mean	S.D.	
Relaxation	5.00 (04)	3.59	2.67 (01)	2.35	1.78 (01)	1.30	3.97*
Hypnosis	9.11 (11)	4.06	5.20 (03)	3.65	6.50 (05)	3.59	2.59
Assertiveness	7.33 (08)	2.96	6.00 (06)	3.89	7.78 (07)	2.05	.88
Affective	4.67 (03)	2.35	6.90 (08)	2.23	5.00 (02)	3.74	1.94
Sexual	13.59 (14)	1.44	13.80 (14)	1.03	13.33 (12)	2.24	.19
Stress	4.50 (02)	2.07	7.10 (09)	3.21	7.67 (06)	3.16	3.95*
Marital	7.25 (07)	3.67	5.70 (05)	3.34	5.67 (04)	3.84	.69
Family	8.92 (10)	3.85	6.50 (07)	4.22	8.67 (09)	4.03	1.13
Behavioural	6.67 (05)	3.57	9.90 (11)	3.00	8.33 (08)	2.67	2.65
Strategic	10.58 (12)	1.88	8.50 (10)	3.72	9.22 (10)	3.19	1.42
Group	8.83 (09)	2.08	8.50 (10)	3.03	8.33 (08)	3.35	.09
Cog-Behavioural	2.58 (01)	2.15	5.60 (04)	4.35	5.22 (03)	3.60	2.58
Substance	13.33 (13)	.98	13.70 (13)	1.95	13.89 (13)	.93	.46
Vocational	6.83 (06)	2.04	4.70 (02)	2.50	5.67 (04)	3.71	1.66
Pastoral	14.05 (15)	1.31	12.50 (12)	3.54	12.00 (11)	2.24	2.08

Note. S.D. refers to standard deviation
* $p < .05$

Table 2

Descriptive Themes for Question 1 - Major Issue Presented

Condition 1	Condition 2	Condition 3
Unresolved emotional difficulties.	Pain as functional.	Pain as functional.
	Pain as communication of problems in marriage and job.	Pain as avoidance of problems in marriage and job.
	Feelings of inadequacy.	Feelings of inadequacy.

Table 3

Descriptive Themes for Question 2 - Most Useful Aspect of Assessment Information

Condition 1	Condition 2	Condition 3
Personal and family history of illness and abuse.	Audiotaped interview.	Audiotaped interview.
Results of psychometric evaluation.		

Table 4

Descriptive Themes for Question 3 - Recommended Intervention

Condition 1	Condition 2	Condition 3
Multidimensional approach for alleviation of pain and control of physical symptoms.	Multidimensional approach focused on relationship, vocational and emotional problems.	Pain management, symptom relief, and relaxation strategies.
Psychotherapeutic approach for resolution of past trauma following multidimensional pain management.	Communication skills and assertiveness training.	Multidimensional approach focused on relationship, vocational, and emotional problems following pain management.
Vocational and relationship counselling only if necessary following pain management and psychotherapy.	Insight oriented therapy regarding role of pain.	

References

American Psychiatric Association (1980). Diagnostic and statistical manual of mental disorders (DSM III) (3rd Ed.). Washington, DC: American Psychiatric Association.

American Psychiatric Association (1988). Diagnostic and statistical manual of mental disorders - Revised (DSM III - R). Washington, DC: American Psychiatric Association.

Amundson, J. (1988). Strategic/pragmatic aspects of pain management. Alberta Psychology, 17, 3-6.

Anderson, K.V. (1983). Endogenous opoid peptides and the control of pain. In S.F. Brena & S.L. Chapman (Eds.) Management of patients with chronic pain (pp. 23-46). New York: Spectrum Publications Inc.

Bakan, D. (1971). Disease, pain and sacrifice: Toward a psychology of suffering. Chicago: Beacon Press.

Baszanger, I., (1989). Pain: Its experience and treatments. Social Science and Medicine, 29, 425-434.

Beals, R.K. (1984)., Compensation and recovery from injury. Western Journal of Medicine, 140, 233-237.

Beck, A.T., Rush, A.J., Shaw, B.F., & Emery, G. (1979). Cognitive therapy of depression. New York: Guilford Press.

Beck, A.T., Ward, C.H., Mendelson, M., Mock, J. & Erbough, J. (1961). An inventory for measuring depression. Archives of General Psychiatry, 4, 561-571.

Beecher, H.K. (1959). Measurement of subjective responses. New York: Oxford University Press.

Beecher, H.K. (1962). An inspection of our working hypotheses in the study of pain and other subjective responses in man. In C.A. Keele and R. Smith (Eds.). The assessment of pain in man and animals. London: E&S Livingstone Ltd.

Benjamin, S., (1989). Psychological treatment of chronic pain: A selective review. Journal of Psychosomatic Research, 33, 121-131.

Blazer, D. (1990). Chronic Pain: A multiaxial approach to psychosocial assessment and intervention. In T.W. Miller (Ed), Chronic Pain Vol. I (ppp. 279-306). Madison: International Universities Press, Inc.

Blumer, D., & Heilbronn, M. (1982). Chronic pain as a variant of depressive disease: The pain prone disorder. Journal of Nervous Mental Disease, 7, 381-406.

Bogdan, R.C., & Biklen, S.K. (1982). Qualitative research for education: An introduction theory and methods, Boston: Allyn & Bacon.

Bonica, J.J. (1953). The management of pain. Philadelphia: Lea and Febiger.

Brena, S.F. (1978). Why man alone has chronic pain. In S.F. Brena (Ed.) Chronic pain: America's hidden epidemic. New York, Atheneum/SM1.

Brena, S.F. (1983). The mystery of pain: Is pain a sensation? In S.F. Brena & S.L. Chapman (Eds.). Management of patients with chronic pain (pp. 1-9). New York: Spectrum Publications Inc.

Bronte, E. (1900). The prisoner. In Sir A. Quiller-Couch (Ed.), The oxford book of english verse (pp. 253). New York: The Oxford University Press.

Burckhardt, C.S., (1990). Chronic pain. Nursing Clinics of North America, 25, 863-382.

Buytendijk, F.J.J. (1961). Pain. Westport Conn: Greenwood Press.

Camic, P.M. (1989). Psychological assessment of the chronic pain patient: Behaviours, cognitions, and dynamics in P.M. Camic & F.D. Brown (Eds.). Assessing chronic pain; A ultidisciplinary clinical handbook (pp. 47-70). New York: Springer-Verlag.

Campbell, D.T. & Stanley, J.C. (1963) Experimental and quasi-experimental designs for research. Chicago: Rand McNally.

Cassell, E.J. (1982). The nature of suffering and the goals of medicine. New England Journal of Medicine, 306, (ppp. 639-645).

Chapman, C.R., Casey, K.L., Dubner, R., Foley, K.M., Gracely, R.H. & Reading, A.E. (1985). Pain measurement: An overview. Pain, 22, 1-31.

Cinciripini, P.M. & Floreen, A. (1983). An assessment of chronic pain behaviour in a structured interview. Journal of Psychosomatic Research, 27, 117-123.

Clark-Mims, B., (1989). Sociologic and cultural aspects of pair.. In C.D. Tollison (Eds.), Handbook of Chronic Pain Management (ppp. 17-25). Baltimore: Williams and Wilkins.

Clark, W.C., (1987). Quantitative models for the assessment of clinical pain: Individual differences scaling and sensory decision theory. In Burrows, D. Elton & G. Stanley (Eds.), Handbook of Chronic Pain Management (ppp. 57-67). Amsterdam: Elsevier Science Publishers Biomedical Division.

Clark, W.C. & Yang, J.C. (1983). Applications of sensory decision theory to problems in laboratory and clinical pain. In R. Melzack (Ed.), Pain measurement and assessment (pp. 15-22). New York: Raven Press.

Cohen, J. (1958). Humanistic Psychology. London.

Colaizzi, P.F. (1978), Psychological research as a phenomenologist views it. In R.S. Valle & M. King (Eds.), Existential - phenomenological alternatives for psychology (pp. 48-71). New York: Oxford University Press.

Copp, L.A. (1974). The spectrum of suffering. American Journal of Nursing, 74, 491.

Corey, D. (1988). Pain: Learning to live without it. Toronto: Macmillan.

Costello, R.M., Schoenfeld, L.S., Ramamurthy, S., & Hobbs- Hardee, B., (1989). Sociodemographic and clinical correlates of P-A-I-N. Journal of Psychosomatic Research, 33, 315-321.

Craig, K.D. (1984). Emotional aspects in pain. In P.D. Wall and R. Melzack (Eds), Testbook of Pain, (ppp. 153-161). New York: Churchill Livingstone.

Craig, K.D. (1984). Psychology of pain. Postgraduate Medical Journal, 60, 835-840.

Craig, K.D., and Prkachin, K.M. (1983). Nonverbal measures of pain. R. Melzack (Ed), Pain Measurement and Assessment (pp. 173-179). New York: Raven Press.

Crue, B.L. (1985). Multidisplinary pain treatment programs: current status. Clinical Journal of Pain, 1, 31-38.

Cyr, J.J., McKenna-Foley, J.M., & Peacock, E. (1985). Factor Structure of the SCL-90-R. Is there one? Journal of Personality Assessment: 49, 571 - 578.

Dabrowski, K. & Peichowski, M.M. (1977). Theories of levels of emotional development: Vol I - Multilevelness and positive disintegration. New York: Dabor Science Publications.

Dallenbach, K.M. (1939). Pain: History and present status. American Journal of Psychology, 52, 331-347.

Derogatis, L. (1977). SCL-90-R (Revised Version) Administration, scoring and procedure manual, Johns Hopkins University School of Medicine, Baltimore, Md.

Duffy, M.E. (1985). Designing nursing research: The qualitative-quantitative debate. Journal of Advanced Nursing, 10, 225-232.

Dworkin, R.H., Handin, D.S., Richlin, D.M., Brand, L., & Vannucci, C. (1985). Unravelling the effects of compensation, litigation , and employment on treatment response in chronic pain. Pain, 23, 49-59.

Eaton, J.H. (1985). Job. Sheffield, England: JSOT Press.

Eggebrecht, D.B., Bautz, M.T., Brenig, M.I.D., Pfingsten, M., Franz, C. (1989). In P.M. Camic & F.D. Brown (Eds.) Assessing Chronic Pain; A multidisciplinary clinical handbook, (ppp. 71-90). New York: Springer-Verlag.

Eland, J.M. (1978). Living with pain. Nursing Outlook, 26, 430-431.

Engle, G.L. (1959). 'Psychogenic' Pain and the pain prone patient. American Journal of Medicine, 26, 899.

Feuerstein, M., (1989). Definitions of pain. In C.D. Tollison (Eds.), Handbook of chronic pain management (ppp. 2-5). Baltimore: Williams & Wilkins.

Field, P.A. & Morse, J.M. (1985) Nursing research: The application of qualitative approaches. London: Croom Helm

Fordyce, W.E. (1976). Behavioral methods for chronic pain and illness. St. Louis, MO: Mosby.

Fordyce, W.E. (1983). The validity of pain behaviour measurement. In R.W. Melzack (Ed.), Pain measurement and assessment (pp. 145-153). New York: Raven Press.

Fordyce, W.E. (1988). Pain and suffering: A reappraisal. American Psychologist, 43, 276-283.

Fordyce, W.E., Lansky, D., Calsyn, D.A., Shelton, J.L., Stolov, W.C. & Rock, D.L. (1984). Pain measurement and pain behaviour. Pain, 18, 53-69.

France, R.D., & Krishnan, K.R.R., (1990). The systems approach to the assessment and management of chronic pain. In T.W. Miller (Eds.), Chronic pain vol I (ppp. 181-214). adison: International Universities Press, Inc.

Frankl, V. (1959). From death camp to existentialism. Boston: Beacon Press.

Gamsa, A., Braha, R.E.D., & Catchlove, R.F.H., (1985). The use of structured group therapy sessions in the treatment of chronic pain patients. Pain, 22, 91-96.

Giorgi, A. (1985) Phenomenology and Psychological Research, Pittsburgh: Duquesne University Press.

Guba, E.G. (1981) Criteria for assessing the trustworthiness of naturalistic inquiries. Educational Communication and Technology Journal, 29, 75-91.

Hardy, J.D., Wolff, H.G., and Goodell, H.S. (1952). Pain sensations and reactions. Baltimore: Williams & Wilkins.

Hebben, N. (1985). Toward the assessment of clinical pain. In G.M. Aronoff (Ed.), Evaluation and treatment of chronic pain, (pp. 451-462). Baltimore: Urban & Schwarzenberg.

Holy Bible, New International Version (1973). Canada: Zondervan Bible Publishers.

Huskisson, E.C. (1983). Visual analogue scales. In R. Melzack (Ed.). Pain measurement and assessment, (pp. 33-37). New York: Raven Press.

International Association for the Study of Pain, Subcommittee on Taxonomy (1986). Classification of chronic pain: Descriptions of chronic pain syndromes and definitions of pain terms. Pain, Supplement, 3, 51-52.

Isele, F.W., (1990). Biofeedback and hypnosis: Multifaceted approaches in the management of pain. In T.W. Miller (Eds.), Chronic pain vol II (ppp. 389-431). Madison: International Universities Press, Inc.

Jamison, R.N., Matt, D.A., Parris, W.C.V. (1988). Effects of time-limited vs. unlimited compensation on pain behaviour and treatment outcome in low back pain patients. Journal of Psychosomatic Research, 32, 277-283.

Jamison, R.N., Rock, D.L., Parris, W.C.V. (1988). Empirically derived Symptom Checklist 90 subgroups of chronic pain patients: A cluster analysis. Journal ofBehavioral Medicine, 11, 147-158.

Johnson, M. (1977). Assessment of clinical pain. In A.K. Jacox (Ed.), Pain - A source book for nurses and other health professionals (pp. 139-166). Boston: Little Brown and Co.

Johnson, S. (1983). Psychological assessment of chronic pain. In S.F. Brena & S.L. Chapman (Eds.), Management of patients with chronic pain. Jamaica N.Y.: Spectrum Publications Inc.

Keefe, F.J. & Block, A.R. (1982). Development of an observational method for assessing pain behaviour in chronic low back pain patients. Behavioral Therapy, 13, 363-375.

Keele, K.D. (1946). The pain chart. Lancet, 2, 6-8.

Kerlinger, F.N. (1979) Behavioral Research: A conceptual approach, New York: Holt, Rinehart and Winston.

Kerns, R.D., Turk, D.C., & Rudy, T.E. (1985). The West Haven-Yale Multidimensional Pain Inventory (WHYMPI). Pain, 23, 345-356.

Kessler, H.H. (1955). Low back pain in industry - A study prepared for the Special committee on Workman's Compensation. Commerce and industry association of New York.

Kremer, E.F., Block, A., & Atkinson J.H. Jr. (1983). Assessment of pain behaviour: Factors that distort self-report. In. R. Melzack (Ed.). Pain measurement and assessment, (pp. 165-171). New York: Raven Press.

Leshan, L. (1964). The world of the patient in severe pain of long duration. Journal of chronic disease, 17, 119-126.

Lincoln, Y.S. & Guba E.G. (1985). Naturalistic enquiry. Beverly Hills, CA: Sage Publications Inc.

Loeser, J.D. and Egan, K.J. (1989). Managing the Chronic pain patient. New York: Raven Press.

Maruta, T., (1987). Sexual adjustment and chronic pain. In Burrows, D. Elton & G. Stanley (Eds.), Handbook of Chronic Pain Management (ppp. 315-319). Amsterdam: Elsevier Science Publishers Biomedical Division.

McGuire, D.B. (1984). The measurement of clinical pain. Nursing Research, 33, 152-156.

Meichenbaum, D., & Turk, D.C., (1987). Behavioral approaches in pain management. In Burrows, D. Elton & G. Stanley (Eds.), Handbook of Chronic Pain Management (ppp. 85-89). Amsterdam: Elsevier Science Publishers Biomedical Division.

Melzack, R. (1975). The McGill Pain Questionnaire: Major properties and scoring methods. Pain, 1, 277-299.

Melzack, R. (1983). Concepts of pain measurement. In R. Melzack (Ed.), Pain measurement and assessment (pp. 1-5). New York: Raven Press.

Melzack, R. & Torgerson, W.S. (1971). On language of pain. Anaesthesiology, 34, 50-59.

Melzack, R. & Wall, P.D. (1965). Pain mechanisms: A new theory. Science, 150, 971-979.

Melzack, R. & Wall, P.D. (1982). The challenge of pain. Ontario: Penguin.

Merskey, H. (1968). Psychological aspects of pain. Postgraduate Medical Journal, 44, 297-306.

Merskey, H. (1986). Classification of chronic pain, descriptions of chronic pain syndromes and definition of pain terms. Pain, Suppl. 3: S217.

Miles, M.B. & Huberman, A.M. (1984) Qualitative data analysis: A source of new methods. Beverly Hills: Sage.

Mitchell, E.S. (1986), Multiple triangulation: A methodology for nursing science. Advances in nursing science, 8, 18-26.

Morse, R.H. (1982). Milieu Psychotherapy. In S.F. Brena & S. L. Chapman (Eds.), Management of patients with chronic pain (pp. 131-143). New York: Spectrum Publications Inc.

Naliboff, B.D., Cohen, M.J. & Yellen, A.N. (1982). Does the MMPI differentiate chronic illness from chronic pain? Pain, 13, 333-341.

Nemiah, J.C. (1978). Alexithymia and psychosomatic illness. Journal of Clinical and Experimental Psychiatry, pp. 25-37.

Parse, R.R., Coyne, A.B. & Smith, M.J. (1985). Nursing research: Qualitative methods. Bowie, Maryland: Brady Communications.

Peck, R.E. (1967). A precise technique for measurement of pain. Headache, 6, 189-194.

Pither, C.E., (1989). Treatment of persistent pain: Behavioural methods give good results (editorial). British Medical Journal, 299, 1239-1240.

Reading, A.E. (1983). The McGill Pain Questionnaire: An appraisal. In R. Melzack (Ed.). Pain measurement and Assessment (pp. 55-61). New York: Raven Press.

Redekopp, C.F. (1990). An analysis of the study of the meaning in life. Unpublished doctoral dissertation, University of Alberta.

Reid, V.J. and Bush, J.P. (1990). Ethnic factors influencing pain expression: Implications for clinical assessment. In T.W. Miller (Ed.), Chronic pain Vol. I, (ppp. 117-142). Madison: International Universities Press, Inc.

Richards, J.S., Nepomucno, C., Riles, M. & Sver, Z., (1982). Assessing pain behaviour: the VAS pain behaviour scale. Pain, 14, 393-398.

Romano, J.M., Turner, J.A., & Moore, J.E., (1989). Psychological evaluation. In C. D. Tollison (Eds.), Handbook of chronic pain management (ppp. 38-51). Baltimore: Williams & Wilkins.

Rossi, E.L. & Cheek, D.B. (1988). Mind-body therapy - Methods of ideodynamic healing in hypnosis (pp. 238-259). New York: W.N. Norton & Co.

Sandelowski, M. (1986). The problem of rigor in qualitative research. Advances in Nursing Science, 8, 27-37.

Seaman, C.H.C. (1987). Research methods: Principles, practice and theory for nursing (3rd Ed.). Norwalk Conn: Appleton & Lange.

Shakespeare, W. King Lear. In R.E.C. Houghton (Ed.), The New Clarendon Shakespeare - King Lear (1957). Oxford: Oxford University Press.

Shutty, M.S., DeGood, D.E. & Schwartz, D.P. (1986). Psychological dimensions of distress in chronic pain patients: A factor analytic study of Symptom Checklist-90 responses. Journal of Consulting and Clinical Psychology, 54, 836-842.

Siegel, S. (1956). Nonparametric Statistics for the Behavioural Sciences. New York: McGraw-Hill.

Smith, G.M., Egbert, L.D., Markowitz, R.A., Mosteller, F and Beecher, H.K. (1966). An experimental pain method sensitive to morphine in man: the submaximal effort tourniquet technique. Journal of Pharmacology and Experimental Therapy, 154, 324-332.

Snaith, N.H. (1968). The book of Job - Its origin and purpose. Naperville Ill: SCM Press Ltd.

Snyder, D.K. (1990). Assessing chronic pain with the Minesota Multiphasic Personality Inventory (MMPI). In T.W. Miller (Ed.), Chronic Pain Vol. I, (ppp. 215-257). Madison: International Universities Press, Inc.

Spielberger, C.D., Gorsuch, R.L., & Luschene, R. (1970). The State-Trait Anxiety Inventory Manual, Palo Alto: Consulting Psychologists Press.

Sternbach, R.A. (1968). Pain: A psychophysiological analysis. New York: Academic Press.

Sternbach, R.A. (1986). Clinical aspects of pain. In R.A. Sternbach (Ed.). The psychology of pain (2nd ed.). (pp. 223-239). New York: Raven Press.

Sternbach, R.A. (1983). The tourniquet pain test. In R. Melzack (Ed.). Pain measurement and assessment (pp. 27-32). New York: Raven Press.

Stewart, M.L. (1977). Measurement of clinical pain. In A.K. Jacox (Ed.), Pain - A source book for nurses and other health professionals (pp. 107-137). Boston: Little Brown and Co.

Swanson, D.W. (1984). Chronic pain as a third pathologic emotion. American Journal of Psychiatry, 141, 211-214.

Szasz, T.S. (1957). Pain and pleasure. New York: Basic Books.

Szasz, T.S. (1974). A psychiatric perspective on pain and its control. In D. Hart (Ed.). The treatment of chronic pain (pp. 39-61). Lancaster: MTP.

Trungpa, C. (1976). The myth of freedom. Boulder, CO: Shambhala.

Turk, D.C. (1990). Psychological assessment of patients with persistent pain, Part I: Traditional views. Pain Management, May/June (ppp. 165-172).

Turk, D.C. & Flor, H. (1987). Pain > Pain behaviours: The utility and limitations of the pain behaviour construct. Pain, 31, 277-295.

Turk, D.C. & Kerns, R.D. (1983). Conceptional issues in the assessment of clinical pain. International Journal of Psychiatry and Medicine, 13, 15-26.

Turk, D.C., Meichenbaum, D., & Genest, M. (1983). Pain and behavioral medicine: A cognitive-behavioral perspective. New York: Guilford Press.

Turk, D.C. & Rudy, T.E. (1986). Assessment of cognitive factors in chronic pain: A worthwhile enterprise? Journal of Consulting and Clinical Psychology, 54, 760-768.

Turk, D.C. & Rudy, T.E. (1987). Towards a comprehensive assessment of chronic pain patients. Behavioral Research and Therapy, 25, 237-249.

Turk, D.C., Rudy, T.E. & Salovey, P. (1985). The McGill pain questionnaire in the clinical assessment of pain. Pain, 21, 385-397.

United States Government (1986). Report of the commission on the evaluation of pain. Washington DC: U.S. Government Printing Office.

Violon, A. (1982). The process involved in becoming a chronic pain patient. In R. Roy & E. Tunks (Eds.), Chronic pain: Psychosocial factors in rehabilitation (pp. 20-35). London: Williams and Wilkins.

Wall, P.D. (1979). On the relation of injury to pain. Pain, 6, 253-264.

Wallston, K.A., Wallston, B.S., & DeVellis, R. (1978). Development of the Multidimensional Health Locus of Control (MHLC) Scales. Health Education Monographs, 6, 161-170.

Weighill, V.E. (1983). 'Compensation neurosis': a review of the literature. Journal of Psychosomatic Research, 2,97-104.

Whitehead, W. III., & Kuhn, W.F., (1990). Chronic pain: An overview. In T.W. Miller (Eds.), Chronic pain vol I (ppp. 5-48). Madison: International Universities Press, Inc.

Williams, R.C., (1988). Toward a set of reliable and valid measures for chronic pain assessment and outcome research. Pain, 35, 239-251.

Wolff, B.B. (1978). Behavioral measurement of human pain. In R.A. Sternbach (Ed.), The psychology of pain (pp. 129-168). New York: Raven Press.

Wyke, B.D. (1981). Neurological aspects in pain therapy. In M. Swerdlow (Eds.), The therapy of pain Philadelphia: J.B. Lippincott Co.

APPENDIX A

CLIENT INFORMATION REPORT

CLIENT: Doris

DATE OF BIRTH: May 27, 1952

DATE OF ACCIDENT: May 24, 1988

CLINICAL PRESENTATION:

Doris presented as a tall attractive woman who appeared younger than her stated age of 37 years. She was friendly and cooperative throughout the interview and seemed quite comfortable discussing her personal life. Her eye contact was somewhat irregular. She was observed to close her eyes when discussing difficult personal issues. She tended to become quite emotional at these times as reflected in her speech and show of tears. Her mood was variable over the course of the interview, ranging from laughter and witty conversation to sadness. For the most part, her affect remained consistent with the content of her speech. When asked personal questions, Doris was observed to close her eyes in concentration as if it were very hard for her to provide an answer. Other than this, her thinking seemed quite clear as reflected in her speech.

BACKGROUND INFORMATION:

Personal and Family History

Doris was born and raised in rural Alberta by her natural parents. She is the eldest of four children. She said that while she tended to be a happy child, her upbringing was troubled. This included both physical and psychological abuse by her mother. Doris described her mother as rejecting, punishing, frustrating, critical, dishonest, overprotective, and authoritarian. She explained that her mother was only trying to do what she though was best and yet, it was clear that Doris was still having difficulty understanding her cruelty. Her father, on the other hand, tended to be quite passive and, according to Doris, always supported his wife. He was apparently aware of the abuse taking place but was unwilling to intervene. Doris described her father as a kind and giving man

whose only fault was that he was "a wimp". She said that while she always loved him she had trouble respecting him. Doris's mother and father are now living in Ontario. She has minimal interaction with them. Doris described herself as a shy, awkward, and emotional child who was strongly influenced by her mother's negativism and abuse, as well as numerous health concerns. In her teenage years, she continued to be shy and somewhat insecure socially. She recalled considerable worry over acceptance by her peers.

At present, Doris resides in a large town in Southern Alberta. She has been divorced from her original husband for eight years and now lives with her fiance and his 15 year son. The couple have been together for two years. While Doris seemed committed to her current family relationship, she described a number of challenges, including some behavioral problems on the part of her fiances son, some lack of agreement on child rearing styles and discipline between she and her fiance, and a general feeling of distance from her commonlaw partner. Doris seemed quite unsure about the future of her relationship.

Health and Accident History

During the interview Doris described her current level of health as quite good. However, she detailed numerous health problems she had endured in her lifetime. At the age of 6 she contracted Rheumatic fever that then developed into St. Vitus' Dance. She was apparently in and out of hospital at this time and experienced comas related to this condition. She reported having to learn to walk again as part of her recovery. Doris also explained that she continues to have some difficulties with balance as a result of high fevers experienced when she was a child. At 12 years of age, she contracted infectious hepatitis from which she made a fairly speedy recovery. She underwent breast biopsy at the age of 15 which revealed a benign cyst. Doris has experienced ongoing back problems since her early 20's for which she received physical therapy and analgesic medication. In the recent past she has experienced difficulties with her gall bladder and sinuses. Doris also has been diagnosed with periodontal disease and has received gum surgery. She is allergic to penicillin and reacts adversely to codeine. At present, Doris smokes two packages of cigarettes per day and drinks alcohol only socially.

Doris sustained a compensable muscle strain to her right arm and right hand on May 24, 1988. She first became aware that there was something wrong with her arm when she experienced a tingling sensation in the entire extremity while operating a computer keyboard. While her physician initially queried reflex sympathetic dystrophy he later concluded that Doris was experiencing a chronic strain syndrome of the arm related to the repetitive nature of her work. It was

recommended that she abstain from her regular work as a keyboard operator for 1 year. It was at this point that Doris made a claim to the Workers' Compensation Board. At the recommendation of her doctor, Doris participated in active physical therapy for 6 months (a total of 65 sessions). While this treatment initially led to some improvement in her experience of pain, it was discontinued when her progress plateaued.

At the present time, Doris continues to experience intermittent pain in her shoulder, elbow, wrist and hand. While she has been prescribed a variety of analgesic medications in the past, at present she does not use any medication for managing her pain. She indicated that activities which exacerbate her pain include sitting, standing and walking for long periods, vigorous exercise and continued use of her arm in activities such as house work. Her experience of pain is alleviated somewhat by the application of heat, massage, holding her arm in one position across her body, and supporting her arm and thinking relaxing thoughts. Doris also indicated that she has experienced no disruption in her sleeping behaviour since the time of her compensable injury. She generally has no difficulty falling asleep and awakens feeling refreshed. Doris also reports a healthy appetite and no change in her weight since the time of her injury. It is the opinion of her physician that no further medical investigation or intervention is indicated but rather that Doris would benefit most from comprehensive rehabilitation and gradual return to work.

VOCATIONAL HISTORY

Doris completed a Grade 13 education in Ontario plus 2 years of a Bachelor of Science degree in forestry. She was last in school in 1973 - 74. Since that time, she has taken courses in accounting and computer programming. She has an extensive and varied work history. Doris began working as a labourer on a fruit farm at the age of 15 and then progressed to many positions within service industries including: cashier, secretary/receptionist, bankteller, and sales clerk. More recently, she worked in more technically oriented positions as a drafts person on a geological survey and for the forestry service on a regeneration survey. For the last 9 years, she was employed as a data entry and computer operator. Her responsibilities included payroll and accounting as well as reception duties. While Doris said she would like to return to a similar type of work, she did indicate a fair amount of dissatisfaction with her preaccident job, most of which was related to problematic interaction with her co-workers.

SOCIAL/RECREATIONAL HISTORY

Doris enjoyed a fairly active lifestyle prior to her injury including involvement in slow pitch baseball and umpiring. She also had an active social life with a number of friends. At present, Doris has found it necessary to curtail many of her recreational activities because of limitations imposed by her muscle strain. In addition, she rarely goes out and has only maintained contact with two of her female friends. She did report attempting to stay active in household activities including some limited housework, eg. cooking, and ironing. She also suggested that it was important for her and her family to do things together such as watching television and playing cards.

FINANCIAL STATUS

Doris reported that she grew up in a family where finances were often the topic of disagreement. Similar issues continued to plague her in her adult years until quite recently. She indicated that, at present, while she finds it necessary to budget, her finances are quite stable. She did express concern over how she would manage in the future if she was not able to secure employment. Doris also explained that, because of the nature of her fiance's work, she could not always depend on his income.

APPENDIX B

ASSESSMENT REPORT AND DATA

TESTS ADMINISTERED

Self-Rated Visual Analogue Scale of Pain Intensity - Day 1 to 5.
McGill Pain Questionnaire - Day 1
Minnesota Multiphasic Personality Inventory - Day 2
Beck Depression Inventory - Day 3
Multidimensional Health Locus of Control - Day 3
State Trait Anxiety Inventory - Day 4
The Symptom Checklist 90 - Revised - Day 4
The West Haven Yale Multidimensional Pain Inventory - Day 5

TEST BEHAVIOUR

The above instruments were completed by Doris over a 5 day period. She was cooperative throughout the assessment and asked numerous questions suggesting her interest in the process. She concentrated well on each of the tasks and consistently checked and rechecked her answers. Although some minimal pain behaviour was observed, it did not seem to interfere with Doris's ability to complete the assessment protocols. At the conclusion of the assessment, Doris stated that she had enjoyed the process and was eager to receive the results.

This assessment is considered to provide a reliable and valid representation of Doris's status at the time of testing.

RESULTS

Self-rated Visual Analogue Scale of Pain Intensity (VAS)

The VAS employs a 10 centimetre line, the length of which represents the continuum of pain intensity. The beginning of the line reflects no pain and the end of the line reflects severe pain. The respondent is asked to make a mark along the line that represents their current experience of pain intensity. Pain intensity is then measured in terms of the distance along the line. Doris completed a VAS on each day of the five day assessment. Her ratings were fairly consistent, ranging from 4.9 to 6.0 with an average of 5.44.

The McGill Pain Questionnaire (MPQ)

The MPQ requires the respondent to select one verbal descriptor from each of 20 word groups that applies to their experience of pain. Descriptors are organized into 4 major categories (1. Sensory - Discriminative 2. Motivational - Affective 3. Cognitive - Evaluative 4. Miscellaneous).
Each of these dimensions include several subcategories of pain descriptors which are ordered according to intensity. Doris's responses on the MPQ demonstrated a tendency to describe her pain experience in emotional terms more so than in sensory or cognitive terms. Doris rated her present pain intensity as 3 (Distressing) on a six point Likert scale (0 - No Pain, 5 - Excruciating).

The Minnesota Multiphasic Personality Inventory (MMPI)

The MMPI provides an assessment of personality and includes 10 clinical scales (hypochondriasis, depression, hysteria, psychopathic deviance, masculinity-femininity, paranoia, psychasthenia, schizophrenia, hypomania, and social introversion). Doris's MMPI profile showed elevation on the first 3 clinical scales with Hypochondriasis and Hysteria being higher than Depression. This is a common profile among chronic pain suffers and is not considered reflective of pathology as it generally develops in reaction to pain. It does, however, suggest that Doris is quite focused on somatic complaints and health issues. She is likely experiencing some degree of depression or dissatisfaction related to her prolonged experience of pain. In addition, moderate elevation on scale 8 (Schizophrenia) and scale 10 (Social Introversion-Extroversion) is reflective of an individual who tends to think and behave differently than others, perhaps resulting in some social isolation.

The Beck Depression Inventory (BDI)

The BDI assesses the severity and intensity of depression. Doris's score on this instrument indicated that she is experiencing a mild to moderate depression. Specific items endorsed by Doris may in fact be symptomatic of long term pain. These included such things as sadness, feelings of guilt, irritability, fatigue, reduced interest in other people, and concerns regarding health.

The Multidimensional Health Locus of Control (MHLC)

The MHLC considers the degree to which the respondent believes they have control over their own health. This instrument includes 3 separate measures: Internal Locus of Control (IHLC) Powerful Others Locus of Control (PHLC) and,

Chance Locus of Control (CHLC). Doris's scores demonstrated a strong Internal Health Locus of Control suggesting her belief that she is largely responsible for determining and influencing her own health.

The State/Trait Anxiety Inventory (STAI)

The STAI measures two separate anxiety constructs. State anxiety refers to how the respondent feels at the moment. Trait anxiety, on the other hand, refers to a relatively stable personality trait and asks the respondent how they feel generally. The overall results of the STAI suggest that Doris is not experiencing excessive anxiety when compared to other normal female adults aged 9 to 37. Her scores were, however, higher on State anxiety than on Trait anxiety. This suggests that any anxiety she may be experiencing is a result of current circumstances rather than her personality or predisposition.

The Symptom Checklist 90 - Revised (SCL90)

The SCL90 reflects psychological symptom patterns and psychological distress on 9 symptom dimensions (Somatization, Obsessive/Compulsive, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic Anxiety, Paranoia, and Psychoticism). Doris's global score placed her at the 84th percentile relative to the normative sample (female nonpatient normals) suggesting a moderately high level of overall distress. The highest symptom dimension scores were noted on the Hostility and Psychoticism scales. Percentile ranks on these two scales were 97 percent and 94 percent respectively. Hostility refers to feelings or behaviour that are reflective of anger, aggression, irritability, rage, and resentment. The Psychoticism dimension is indicative of withdrawal, feelings of isolation, and unconventional thinking.

The West Haven Yale Multidimensional Pain Inventory (WHYMPI)

The WHYMPI is divided into 3 parts, each of which assesses different dimensions of pain from the client's perspective. Part One evaluates the pain experience, Part Two assesses the response of significant others to pain and, Part Three examines the individual's participation in activities. With respect to the pain experience, Doris's responses indicated her perception that pain interferes with her life to a great degree. Her scores suggest that she feels both the support and concern of significant others and generally feels in control of her life. Her mood is relatively positive and the severity of her pain falls in the midrange. She perceives the responses of significant others to her communications of pain as being generally solicitous more so than punishing or distracting. Doris reported that she continues to be active in household responsibilities. However, she has little involvement in social activities and

activities away from the home and, no involvement in outdoor work (despite being previously active in this area).

Summary

Interpretation and recommendations are not provided in order that the reader can come to these conclusions without being biased by the researcher.

ASSESSMENT DATA

Self Rated Visual Analogue Scale of Pain Intensity

Day 1 - 5.2
Day 2 - 5.8
Day 3 - 6.0
Day 4 - 4.9
Day 5 - 5.3

Average - 5.44

The McGill Pain Questionnaire

Sensory - 22 (.52)
Affective - 9 (.64)
Evaluative - 2 (.40)
Miscellaneous - 8 (.47)
Pain Rating Index - 39 (.50)
Present Pain Intensity - 3 (Distressing)

The Minnesota Multiphasic Personality Inventory

T-Scores

? - 41	(1) HS - 70	(6) Pa - 44
L - 53	(2) D - 65	(7) Pt - 51
F - 58	(3) Hy - 68	(8) Sc - 61
K - 57	(4) Pd - 60	(9) Ma - 58
	(5) Mf - 57	(10) Si - 62

The Beck Depression Inventory

11 - Mild/Moderate Depression

The Multidimensional Health Locus of Control

Internal Health Locus of Control - 33
Chance Health Locus of Control - 14
Powerful Others Health Locus of Control - 16

The State-Trait Anxiety Inventory

State Anxiety - 51 (standard score)
Trait Anxiety - 39 (standard score)

The Symptom Checklist - 90 (Revised)
T-Scores

1) Somatization - 60
2) Obsessive Compulsive - 50
3) Interpersonal Sensitivity - 60
4) Depression - 54
5) Anxiety - 56
6) Hostility - 68
7) Phobic Anxiety - 58
8) Paranoid Ideation - 60
9) Psychoticism - 66

Global Severity Index - 60
Positive Symptom Distress Index - 50
Positive Symptom Total - 61

The West Haven Yale Multidimensional Pain Inventory

Section I

(1) Interference - 4.22
(2) Support - 3.67
(3) Pain Severity - 3.00
(4) Self Control - 4.00
(5) Negative Mood - 2.00

Section II

(1) Punishing Responses - 0.25
(2) Solicitous Responses - 4.25
(3) Distracting Responses - 1.50

Section III

(1) Household Chores - 4.60
(2) Outdoor Work - 0.00
(3) Activities Away from Home - 1.75
(4) Social Activities - 2.00

APPENDIX C

INTERVIEW QUESTIONS

Tell me about your pain?

What is your pain like? How would you describe it?

- colour
- sound
- texture
- weight
- size
- particular object or image

What does your pain mean to you?

How has being in pain changed your life?

- family/relationships
- work
- recreational activities
- social activities
- finances

What message does your pain send to the rest of the world?

- spouse
- family
- employer
- friends
- physician
- others

What message does your pain send you?

How do you feel about yourself in pain?

How has being in pain changed the way you feel about yourself?

How do you feel about your pain?

What has being in pain taught you about yourself?

What role does pain play in your life?

- relationships
- family
- career

What value does your pain have?

What are the functions of your pain?

What benefits does your pain bring to you?

How is your pain a good thing?

What would be different if your pain were gone?

What would be good about not having pain anymore?

What would be bad about not having your pain anymore?

Why would you not want to give up your pain?

What is getting in the way of your giving up your pain?

Have you ever felt you were being tested by your pain? Explain.

Have you ever felt you were being punished via your pain? Explain. By whom? For What?

Have you ever considered your pain a challenge to overcome? Explain?

How would overcoming your pain be a useful thing?

How would you be different if you were able to overcome you pain?

Does you pain cause you to suffer?

In what ways are you suffering?

How does that act of suffering affect you/change you?

How has being in pain made you a better person?

How has being in pain made you a worse person?

What expectations do you have for your pain in the future?

APPENDIX D

A.

Given the assessment information provided, please rank the following interventions by assigning a number from 1 to 15, indicating that which you would be most likely to use or recommend (1) to that which you would be least likely to use or recommend (15).

_____ Relaxation Training (i.e. progressive muscular relaxation, imagery, biofeedback, relaxation response, etc.)

_____ Hypnosis

_____ Assertiveness Training

_____ Affective Management (i.e. depression, anxiety, anger)

_____ Sexual Therapy

_____ Stress Management

_____ Marital/Relationship Counselling

_____ Family Counselling

_____ Behavioral Therapy (i.e. operant reinforcement of well behaviors, activity pacing, modelling, etc.)

_____ Strategic/Pragmatic Therapy (i.e. prescribing the symptom, reframing, paradoxical intention, metaphor, etc.)

_____ Supportive Group Therapy

_____ Cognitive Behavioral Therapy (i.e. stress inoculation, coping strategies, challenging self-defeating beliefs, etc.)

_____ Substance Use/Abuse Counselling

_____ Vocational Counselling

_____ Pastoral/Spiritual Counselling

APPENDIX E

B.

Given the assessment information provided, please indicate the likelihood that you would use or recommend each of the following interventions with the client in question by circling the appropriate number on the following scale:

1	2	3	4
Not at all Likely	Somewhat Likely	Likely	Very Likely

[redacted]

Relaxation Training (eg. progressive muscular relaxation, imagery, biofeedback, relaxation response, etc.)

1	2	3	4
Not at all Likely	Somewhat Likely	Likely	Very Likely

Hypnosis

1	2	3	4
Not at all Likely	Somewhat Likely	Likely	Very Likely

Assertiveness Training

1	2	3	4
Not at all Likely	Somewhat Likely	Likely	Very Likely

Affective Management (eg. depression, anxiety, anger)

1	2	3	4
Not at all Likely	Somewhat Likely	Likely	Very Likely

Sexual Therapy

1	2	3	4
Not at all Likely	Somewhat Likely	Likely	Very Likely

Stress Management

1	2	3	4
Not at all Likely	Somewhat Likely	Likely	Very Likely

Marital/Relationship Counselling

1	2	3	4
Not at all Likely	Somewhat Likely	Likely	Very Likely

Family Counselling

1	2	3	4
Not at all Likely	Somewhat Likely	Likely	Very Likely

Behavioral Therapy (eg. operant reinforcement of well behaviours, activity pacing,modelling, etc.)

1	2	3	4
Not at all Likely	Somewhat Likely	Likely	Very Likely

Strategic/Pragmatic Therapy (eg. prescribing the symptom, reframing, paradoxical intention, metaphor, etc.)

1	2	3	4
Not at all Likely	Somewhat Likely	Likely	Very Likely

Supportive Group Counselling

1	2	3	4
Not at all Likely	Somewhat Likely	Likely	Very Likely

Cognitive-Behavioral Therapy (eg. stress inoculation, coping strategies, challenging self-defeating beliefs, etc.)

1	2	3	4
Not at all Likely	Somewhat Likely	Likely	Very Likely

Substance Use/Abuse Counselling

1	2	3	4
Not at all Likely	Somewhat Likely	Likely	Very Likely

Vocational Counselling

1	2	3	4
Not at all Likely	Somewhat Likely	Likely	Very Likely

Pastoral/Spiritual Counselling

1	2	3	4
Not at all Likely	Somewhat Likely	Likely	Very Likely

APPENDIX F

Given the assessment information provided please; (1) describe what you consider to be the major issue presented by this client to which you would direct intervention, (2) describe what aspect of the assessment information was most useful or important in identifying this issue (3) describe specifically what type of intervention(s) you would use or recommend for the client in question, and why.

APPENDIX G

PERSONAL/PROFESSIONAL INFORMATION

Gender __M __F

Age___

Education	Degree	University	Year
	____	_____	____
	____	_____	____
	____	_____	____
	____	_____	____

Brief Work History

_____
_____
_____
_____

How would you describe your theoretical or practical orientation relative to psychological intervention?

_____
_____
_____
_____

What is the extent of your professional experience with chronic pain clients?

_____
_____
_____
_____

Would you like to receive a summary of research findings?

Yes____ No____

APPENDIX H

COVERING LETTER
CONDITION 1

April 15, 1991

Dear Colleague:

The Psychology Department of the Workers' Compensation Board (W.C.B.) is conducting research on the assessment of chronic pain. This is a particularly important area of study given that a greater understanding of the assessment process will provide direction for treatment of this debilitating condition. You are being asked to participate in this project given that you are among the private practice psychologists who provide psychological services to the W.C.B. clientele. As a result, you have likely had some involvement with clients experiencing chronic pain. Your participation in this study is voluntary and will have no influence upon your relationship with the W.C.B. In addition, your identity and all replies will remain anonymous.

Instructions for participation are as follows:

1). Complete the consent form.
2). Complete the Personal/Professional Information questionnaire.
3). Read the Client Information Report.
4). Read the Assessment Report.
5). Complete forms A, B & C.
6). Return all completed forms to the Workers' Compensation Board using enclosed return envelope.

Forms have been stapled in the above order for your convenience. We would appreciate it if you could return completed the package in the envelope provided on or before April 30, 1991.

Thank you very much for your involvement in this important research.

Sincerely,

_____

Mr. Richard Lucardie
Research Assistant
Workers' Compensation Board
Phone Number: 430 5008

APPENDIX I

COVERING LETTER
CONDITION 2

April 15, 1991

Dear Colleague:

The Psychology Department of the Workers' Compensation Board (W.C.B.) is conducting research on the assessment of chronic pain. This is a particularly important area of study given that a greater understanding of the assessment process will provide direction for treatment of this debilitating condition. You are being asked to participate in this project given that you are among the private practice psychologists who provide psychological services to the W.C.B. clientele. As a result, you have likely had some involvement with clients experiencing chronic pain. Your participation in this study is voluntary and will have no influence upon your relationship with the W.C.B. In addition, your identity and all replies will remain anonymous.

Instructions for participation are as follows:

1). Complete the consent form.
2). Complete the Personal/Professional Information questionnaire.
3). Read the Client Information Report.
4). Listen to the entire audio tape of the assessment interview. A single word will be spoken at the conclusion of the taped material. Please write that word in this blank _____.
5). Complete forms A, B & C.
6). Return all completed forms and audio tape to the Workers' Compensation Board using enclosed return envelope.

Forms have been stapled in the above order for your convenience. We would appreciate it if you could return the completed package in the postage paid envelope provided on or before April 30, 1991.

Thank you very much for your involvement in this important research.

Sincerely,

Mr. Richard Lucardie
Research Assistant
Workers' Compensation Board
Phone Number: 430 5008

APPENDIX J

COVERING LETTER
CONDITION 3

April 15, 1991

Dear Colleague:

The Psychology Department of the Workers' Compensation Board (W.C.B.) is conducting research on the assessment of chronic pain. This is a particularly important area of study given that a greater understanding of the assessment process will provide direction for treatment of this debilitating condition. You are being asked to participate in this project given that you are among the private practice psychologists who provide psychological services to the W.C.B. clientele. As a result, you have likely had some involvement with clients experiencing chronic pain. Your participation in this study is voluntary and will have no influence upon your relationship with the W.C.B. In addition, your identity and all replies will remain anonymous.

Instructions for participation are as follows:

1). Complete the consent form.
2). Complete the Personal/Professional Information questionnaire.
3). Read the Client Information Report.
4). Read the Assessment Report.
5). Listen to the entire audio tape of the assessment interview. A single word will be spoken at the conclusion of the taped material. Please write that word in this blank _____.
6). Complete forms A, B & C.
7). Return all completed forms and audio tape to the Workers' Compensation Board using enclosed return envelope.

Forms have been stapled in the above order for your convenience. We would appreciate it if you could return the completed package in the postage paid envelope provided on or before April 30, 1991.

Thank you very much for your involvement in this important research.

Sincerely,

Mr. Richard Lucardie
Research Assistant
Workers' Compensation Board
Phone Number: 430 5008

APPENDIX K

Consent Form (Chronic Pain Client)

Assessment of Chronic Pain

I, _____voluntarily give my consent to participate in the above named study which involves answering interview questions that will be tape recorded and completing a variety of assessment instruments. I understand that I have the right to choose not to answer any question or test item that I find objectionable. I am aware that this information will be used in research on the assessment of chronic pain. I agree to be identified by my first name in the tape recorded interview but am assured that all other distinguishing information will be kept confidential.

_____
Name

_____
Address

_____
Date

_____
Witness

APPENDIX L

Consent Form (Psychologists)

Consideration of Meaning in the Assessment of Chronic Pain

I, _____voluntarily give my consent to participate in the above named study which involves review of assessment information and completion of questions regarding intervention. I understand that while I will be asked to provide some demographic information about myself, my identity will be kept confidential to the researcher. I also understand that I may be asked to provide follow-up information should it be required after initial data collection. I have the right to withdraw my participation at any time. I am aware that information I provide will be used for Doctoral Dissertation Research sponsored by the Alberta Workers' Compensation Board.

_____
Name

_____
Address

_____
Date

_____
Witness